

**PSYCHOLOGY : SCIENCE OR
SUPERSTITION ?**

**DR. PRATAP COLLEGE LIBRARY,
SRINAGAR.**

PSYCHOLOGY :

SCIENCE OR SUPERSTITION ?

By
GRACE ADAMS, Ph.D.

SHRI PRATAP COLLEGE LTD
SRINAGAR.

LONDON: RIDER & CO.
PATERNOSTER HOUSE, E.C.

150
acc. no: 9746.

TO
EDWARD HUTTER

PREFACE

IT was not so many years ago that psychology seemed to be one of those strange and vaguely terrifying words, which could be spoken gracefully only by the most erudite of scholars. Yet to-day psychology is a common word in most of our vocabularies. It is as much a part of the verbal equipment of a motor salesman or an advertising agent as it is of a college professor. Sports writers use it as easily as ministers. It is heard as often across a bridge-table as from behind an academic desk.

Yet what, precisely, is the meaning of this word, psychology, which all of us now mouth with equal glibness?

The most direct and concise answer to that question would seem to be that psychology is the study of the mind. But the apparent simplicity of that terse statement is deceptive. For what, after all, is mind? And how is it most adequately studied?

Is psychology still a branch of speculative philosophy, as no one, from the time of Aristotle and the Greek metaphysicians to that of Locke and the British empiricists, doubted that it should be? Has it become the exact laboratory science into which the experimental researches of Weber, Fechner, Helmholtz, and the German physiologists began to mould it? Or is it really changing into a branch of mental medicine, as the present

PREFACE

popularity of Freud and Jung and Adler and their psychoanalytical followers make it appear ?

And what is this mind which all the psychologists, by their many philosophic, scientific, or technological methods, are so industriously studying ? Is it a manifestation of the immortal soul, of which the metaphysicians were once so sure ? Is it the consciousness that its most orthodox definition makes it ? Will it prove to be the unconscious which the psychiatrists probe when they seek to cure neuroses ? Or can it be reduced to the overt actions which the behaviourists observe and tabulate ?

These are questions which still vex the shrewdest of psychological commentators. Perhaps, some day, they will all be answered satisfactorily and unanimously—so that a definition of psychology can be as simple and unambiguous as that of physics or chemistry. Perhaps they never will be. But of this there is no doubt : interest in mental phenomena is alive to-day not because psychology holds out any great promise of immediately unifying its activities, but just because its present trends are so diverse. This book will, therefore, attempt to do two things : to find out what modern psychology has become, and then to discover what, by all its various methods and from its many points of view, it has learned about that most persistent of all human puzzles—the mind of man.

This task is not quite so gigantic as it might seem, if one remembers that although modern psychology had an extremely lengthy period of gestation within the ample womb of philosophy, its birth was not officially recorded until 1879 when Wilhelm Wundt established his experi-

PREFACE

mental laboratory at Leipzig; and that during this relatively brief lifetime only one country, America, has recognized it as a really independent science.

Even in Germany, where the subject first donned its proud garments of scientific exactness, psychologists are still considered minor metaphysicians and are officially known as teachers of philosophy. But since Harvard University in 1889 bestowed upon William James the title of professor of psychology, America has accepted investigators of the mind as being as truly scientific as those who experiment upon matter. She has provided them with titles; with lecture platforms; and with vast, expensively equipped laboratories in which they can work out their own problems, free of the authority of philosophy or the petty tyrannies of other kindred sciences. To-day America has more of these laboratories than any other country, and she annually expends millions in their manning and their upkeep. She also has the world's largest share of students of the psyche, and produces the greatest number of psychology's tracts and treatises.

For this reason, then, and despite its long European development, modern psychology has found in America its natural haven. No method of mental investigation which has flourished in another land has not received a warm reception there. While Germany, or England, or France, or Austria may each have concentrated upon and exploited a particular phase of mind, America's interest in mental phenomena has been catholic from the beginning.

E. B. Titchener brought Wundt's experimental introspection straight from Leipzig, and its academic rigidity

PREFACE

of standards has been as strictly upheld in Titchenerian laboratories in America as ever it was in the universities of Germany. Sigmund Freud gave his first popular lectures in the State of Massachusetts many years before he received generous recognition in Europe. Then, when Freudian analysis and Wundtian introspection seemed too vague and spiritualistic to satisfy the more scientifically exacting, America, herself, produced in John B. Watson the arch-mechanist of them all.

Many European countries have their own national brands of psychology, but America has had all brands. Since William James in 1868 brought home with him from Germany the tidings of a possible science of the mind, the history of psychology in America has been in the very broadest sense the history of psychology.

CONTENTS

CHAPTER		PAGE
	PREFACE	9
I.	PSYCHOLOGY IN AMERICA: TO-DAY AND YESTERDAY	15
II.	PSYCHOLOGY BEFORE 1890	27
III.	THE INTROSPECTION OF WILLIAM JAMES	49
IV.	THE EARLY HISTORY OF AMERICAN PSYCHOLOGY	76
V.	THE CONSERVATISM OF E. B. TITCHENER AND THE LIBERALISM OF STANLEY HALL	97
VI.	THE PSYCHOANALYSIS OF SIGMUND FREUD	114
VII.	THE ANALYTICAL CONTRIBUTIONS OF ALFRED ADLER AND CARL JUNG	138
VIII.	THE EFFECT OF PSYCHOANALYSIS UPON AMERICAN PSYCHOLOGY	158
IX.	MENTAL TESTS AND MENTAL HYGIENE	176
X.	THE BEHAVIOURISM OF JOHN B. WATSON	201
XI.	THE PURPOSIVE PSYCHOLOGY OF WILLIAM McDUGALL AND "GESTALT PSYCHOLOGIE"	227
XII.	THE PSYCHOLOGIES OF TO-DAY	244
XIII.	BUT IS IT SCIENCE?	260
	BIBLIOGRAPHY	273
	INSTEAD OF A GLOSSARY	277
	INDEX	281
		18

BRATAP COLLEGE
SRINAGAR

PSYCHOLOGY: SCIENCE OR SUPERSTITION?

CHAPTER I

PSYCHOLOGY IN AMERICA: TO-DAY AND YESTERDAY

IF the scientific attitude should always be disinterested and impersonal, then scientific history should perhaps be written without recourse to proper names. Such a record would content itself with austere facts and general laws, and would ignore entirely the human talents that discovered or conceived them. Few histories could be so written.

The datum of a science does in time acquire, as it always should, a cool detachment and an impersonal quality ; but in the beginning, its discovery was the individual achievement of some very human man. Usually his name has been indelibly written across his work. Yet fame and history have played strange tricks on the greatest of natural scientists. Their personalities have grown dim not from the overshadowing of more picturesque rivals, but because of the universal truth of their own findings. To the casual student of physics, Charles and Boyle mean not people but laws ;

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

and watts and volts have become common nouns incrustated in electric bulbs. The emphasis which is placed upon the personalities to whom these names originally belonged is a matter which the individual historian decides.

The recorder of psychological progress, however, has no such choice. Because the domain which the psychologist explores is accessible to everyone who realizes that he has a mind ; and because his method of research seems not so different from that of the philosopher, the novelist, or of any other man whose thoughts turn inward, his discoveries never have the positive novelty or the austere objectivity of the data of a physical science. The most general psychological theories always seem to have about them the quality of a personal credo ; and investigators of the mind escape the ironic obscurity of more material researchers. In consequence, the dates which punctuate the history of psychology do not often mark the discovery of a startlingly new fact or of a universally proven law. They record, instead, a new conception of mind, or a change in the methodological approach to its study ; events which really lie outside the body of psychological facts, themselves, and within a broader and more human history.

Should anyone be forced to select the most significant dates in the development of psychology in America, he might choose three : first, that officially unrecorded day in 1874 or '75 when young William James took his metronome and horopter chart and other bits of apparatus into a tiny room beneath the stairway of the Agassiz Museum at Harvard and thus established the

first laboratory of psychology in the whole world; then, that July afternoon in 1892 when twenty-six professors met in Stanley Hall's study at Clark University to found the American Psychological Association; and finally, that February evening in 1924 when John B. Watson and William McDougall debated before a large audience in the Hall of the Daughters of the American Revolution at Washington.

The importance of these first two events is self-evident; and the third is no less indicative. Just as surely as James's laboratory meant the birth of American psychology and Hall's association its conscious coming of age, the Watson-McDougall debate marked a phase in its latter history which had an even broader significance.

As arguments upon scientific fundamentals go, involving as they always do the ancient but never-ending controversy between mechanism and vitalism, materialism and idealism, this discussion in Washington was surprisingly amiable. Each combatant, it is true, predicted that his adversary's ideas were doomed to speedy oblivion, but each in his turn made his prophecy politely, graciously, and with evident goodwill. Dr. Watson complimented Professor McDougall upon his "well-known forensic ability"; Professor McDougall spoke eloquently of Dr. Watson's abundant charm. In contrast to the animosity which had flared up at Oxford and at Munich when similar problems of biology had been aired there in the 1860's and '70's, this psychological encounter might have been carried on in the select drawing-room which the correct evening attire of the two principals suggested.

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

If the amicability was in itself surprising, the reason for it was startling. The significance of this debate did not lie in the eminence of the speakers, though both were certainly distinguished enough in psychology to make the slightest argument between them of foremost importance to their science. Both had been selected for special "distinction" in and by the American Psychological Association ; and Watson was a former president of that organization. McDougall was at the time professor at Harvard and his verbal adversary had been until recently the director of the laboratory at the Johns Hopkins. Dr. Tom Williams, President of the Psychological Club of Washington, had asked them to speak upon the fundamentals of psychology because they held "extremely different" views about the method, the material, and the ultimate purpose of this science. It is of such discussions, of course, that psychological history is made. Yet in this particular instance, the importance of the subject of the debate and the eminence of the debaters both paled before the significance of the audience which listened to it.

There were scattered somewhere in that brightly lighted hall a few psychiatrists of Washington and an instructor or two from a nearby college ; but such professional folk were inconspicuous and were crowded in among expectant government clerks ; serious, black-robed young priests ; and casual ladies and gentlemen who seemed to be out for an evening's diversion. This entire assemblage had been received and shown to their reserved seats by charming and beautifully gowned young women from one of Washington's most exclusive finishing schools. There was even a Justice of the Supreme

18

PSYCHOLOGY IN AMERICA

Court upon the platform, resplendent in evening-dress and his formal decorations.

After Dr. Watson and Dr. McDougall had each stated the advantages of his own position and the disadvantages of his opponent's, and after each had used the few minutes officially allotted for rebuttal and counter-rebuttal, this audience rose and voted upon which views of psychology were best suited to the ideals of America. The Judge counted the upraised hands and apparently saw to it that the vote—which went, incidentally and unexpectedly, to the not yet naturalized Englishman—was constitutional.

This audience, which Dr. McDougall has himself described as "large and distinguished," was not there, of course, because its members belonged to his and Dr. Watson's Psychological Association or even to Dr. William's Psychological Club. They were there because they had bought tickets to see two intellectual champions go for each other.

Thus, in the year 1924, psychology came to take its recognized place in the social life of America. It was no longer the pleasant and, as it proved, temporary pastime of an intellectual gentleman that it was when William James wrote his *Principles*. It had ceased to be the slightly obscure and somewhat esoteric science which it seemed when the twenty-six professors gathered at Worcester to found America's first psychological society. It had become a popular spectacle of absorbing interest for everyone. And Americans paid fees, albeit much lower ones, to see Dr. McDougall vanquish Dr. Watson in fifteen minutes of presentation and three minutes of rebuttal, in the same eager spirit in which they paid to

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

see Dempsey knock out Carpentier in four rounds. And they applauded just as enthusiastically, though much more decorously, at a brilliant psychological thrust or a quick intellectual recovery as they would at similar sallies in a physical and more painful combat. In the year 1981, psychology has become such a recognized part of America's interest and recreation that in the *New York Evening Post* Dr. Joseph Jastrow's answers to inquiries about the mind are fast crowding the replies of Dr. Dorothy Dix to queries about the heart.

It is now true, and only too true, that the words that will adorn next month's psychological text have already been read in the syndicated article in yesterday's newspaper. Yet it was less than forty years ago that Stanley Hall had to use eight thousand dollars of his own professorial savings to pay for the deficit in publishing the *American Journal of Psychology*, so that his colleagues could have one medium in which to express their ideas. And exactly forty-five years ago, John Dewey completed the first volume of psychology ever to be published in America. But the first words written by an American relative to the "new psychology," as it was then called, appeared neither in a textbook, a technical journal, nor a syndicated article. They were contained in a letter which in 1867 William James wrote from Berlin to a school friend. In it he said :

"It seems to me that perhaps the time has come for psychology to begin to be a science—some measurements have already been made in the region lying between the physical changes in the nerves and the appearance of

consciousness-at (in the shape of sense perceptions), and more may come of it. I am going to study what is already known, and perhaps may be able to do some work at it. Helmholtz and a man named Wundt at Heidelberg are working at it, and I hope I live through this winter to go to them in the summer."

This paragraph is not only a concise summary of the status of psychology at the time, it is also a very modest foreshadowing of what it was before long to become. The man named Wundt at Heidelberg was soon to be proclaimed the founder of experimental psychology; and James, who did go there in the spring, was destined to establish the science in America. His youthful desire "to work at it" himself, was the germ from which the vast laboratories, the continuous stream of research, the endless lectures, and the thousands of volumes have sprung. In 1867, however, James did not think of himself as the future founder of the new science in his own country. He wanted to be associated with Helmholtz and Wundt that summer because he felt that working with them might solve a problem which was to him, at the time, very real, but purely personal.

James was twenty-five years old when he wrote that rather enthusiastic letter from Berlin. Though he had already studied painting with a view to becoming an artist, had specialized in two different sciences, had enrolled in the Harvard Medical School with the idea of becoming a physician, and had even considered entering "the honourable, honoured, and productive business of printing," he had not yet decided definitely upon his

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

professional career. He had hoped to reach a decision during his two years in Germany.

Fifteen years later James again visited Wundt, this time at his own psychological laboratory at Leipzig. On this second visit he came not as a pupil but as a worthy colleague. For some time now he had been a professor at Harvard, and for four years he had been at work upon the book that was soon to make both himself and its subject famous : his *Principles of Psychology*. It was while on this latter European journey that James wrote to his father :

“ All my intellectual life I derive from you ; and though we have often seemed at odds in the expression thereof, I’m sure there’s a harmony somewhere, and that our strivings will combine. What my debt to you is goes beyond my power of estimating,—so early, so penetrating, and so constant has been the influence.”

That more lay behind these sentiments than mere filial affection is borne out not only in James’s later writings but in the whole pattern of his life. Henry James, senior, may very well have passed on to his brilliant, oldest son the very problem which had sent him to Heidelberg ; certainly, it was a problem which had beset many Americans, whose Puritan consciences were coupled with inquiring minds, after the significance of Darwin’s researches had become known. That the elder James had, himself, wrestled with it is indicated by a question he once put to his friend, Ralph Waldo Emerson :

“ Shall I get me a little nook in the country and communicate with my living kind . . . or shall I follow

PSYCHOLOGY IN AMERICA

some commoner method—learn science and bring myself into man's respect, that I may better speak to him ? ”

Although he had renounced all ecclesiasticism after having spent two years in the pious atmosphere that was Princeton's in the 1830's, the elder James did not accept the postulates of science ; they, he thought, were still too “rank with earthliness.” Instead, he embraced a faith that was less harsh than either Christian theology or scepticism : the vaguer doctrines of Swedenborg. Straight from the intimate influence of this kindly mystic, William James at nineteen entered the Lawrence Scientific School at Harvard, then the refuge for the scientific scepticism which was beginning to break through the solid bulwark of evangelism that encompassed most New England colleges.

The subjects which young James studied at Cambridge captured but could not hold completely the interest of his inquiring mind. His first “enthusiasm” was for chemistry, which Charles W. Eliot taught him ; but within two years he found his ardour “dulled” ; and Eliot afterwards remarked that his “very interesting and agreeable student” had never been “wholly devoted to chemistry.” So the next year James turned to medicine and began to work for his degree, but he interrupted his course after another two years to go with Louis Agassiz on an expedition to the Amazon. Again he found, as incidentally Thomas Huxley had discovered before him, “If there is anything I hate it is collecting. I don't think it is suited to my genius at all.” And Agassiz prophesied that James was destined to be remembered only as “a very bright young man.”

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

This very bright young man had now tried three sciences, and though they all inclined him toward scepticism and materialism, none had succeeded in ridding him entirely of the ontological yearnings he had learned from his father. It was in this state of indecision that he went to Germany in 1867 and learned of the man named Wundt and the possibility of a science of psychology. Here, at last, it seemed to him, might be a subject which, while it satisfied the sceptical exigencies of natural science, would still treat the problems which interested him more keenly. So after he had returned once more to Harvard, had obtained the M.D. which he never used professionally, and had become an instructor in anatomy and physiology, he began to fit up the deserted rooms in the old scientific building with the apparatus he had learned to use at Heidelberg.

In 1877 Harvard University offered to its advanced students a course which had never before graced the pages of any college catalogue. Its title was simply "Psychology," and William James was named as its instructor. To understand the importance of this study to the young men who were fortunate enough to elect it, one must appreciate not only James's own personal charm and the positive novelty of experimental psychology, but the condition of American philosophy at the time.

American colleges had not then relinquished the idea that the greatest intellectual boon they could offer the adolescent was the salvation of his soul. Philosophy was more closely allied with godliness than any other subject they could offer him, because the teacher of it was most often the president of the institution, and in the nine-

teenth century the president of an American college was, with very few exceptions, a minister of the Gospel. For Europeans, philosophy might be almost any heretical doctrine, but to these pious executives it meant only "moral science." They took no chances that their charges might become contaminated by contact with the impieties of foreign writers or of Americans who had renounced the rigours of Puritanism. Their textbooks were theological tracts and their lectures were sermons. For more than a hundred years the austere determinism of Jonathan Edwards' *Freedom of the Will* had been the most pliant answer to the spiritual uncertainty of adolescent curiosity.

While students in other universities were being coerced into accepting theological dogma, those who studied under James were encouraged to forget for a while the salvation of their souls and to learn for themselves how fascinating it was to investigate their minds. Naturally they were "elated with their luck at having him." Soon the rooms in the scientific building became inadequate for their experiments, and in 1890, James had Dane Hall equipped as a new laboratory. This whole building devoted to psychological research was not, however, the novelty that the first tiny room in the Agassiz Museum had been. By now not only had Hopkins, Pennsylvania, and Clark established workshops equally efficient, but the Middle West had turned to higher education and experiment. The University of Indiana and those of Michigan and Wisconsin and Nebraska, as well as Milwaukee College, Kansas State College, and Michigan Normal School, all boasted flourishing laboratories of psychology. Yet 1890 still

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

stands as the year in which William James secured his eminence as the foremost psychologist of America, for it was then that he completed and published his *Principles of Psychology*, the work which James McKeen Cattell has characterized as the new science's "Declaration of Independence."

CHAPTER II

PSYCHOLOGY BEFORE 1890

CATTELL'S description of James's *Principles* was apt. Those two vivid volumes did present to the world the postulates and the hopes of modern psychology. This does not mean, of course, that men were not curious about the functioning of their minds before the end of the nineteenth century. Though experimental psychology was then still so young that its entire history was encompassed by a few decades, the study of mental phenomena was very nearly three thousand years old. It had acquired such importance by the time of Aristotle, that the first volume of his *De Anima* is virtually a history of psychology. In it he set forth the psychological beliefs and opinions of his predecessors. Had a similar work been undertaken in 1890 it should have included, among many others, the following names : René Descartes, Charles Darwin, Arthur Schopenhauer, Galen, Socrates, Plato, James and John Stuart Mill, Immanuel Kant, Johannes Kepler, Francis Galton, Ernst Mach, David Hume, André Ampère, Michel Montaigne, Thomas Huxley, Thomas Aquinas, Isaac Newton, Duns Scotus, Theodor Fechner, Francis and Roger Bacon, Saint Augustine, Robert Boyle, Ludwig von Helmholtz, Johann von Goethe, Auguste Comte, John Locke, Johannes Müller.

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

If psychology had sought out its intellectual patrons, it could not have secured a finer roster. Every name upon it is distinguished either in philosophy or a science ; and for the fashioning of a science of mind the combination seems a particularly happy one. The scientists, one imagines, would have given to the broader vision of the philosophers the stabilizing objectivity which would have made experimental psychology a reality many centuries before it was. Actually, though, in its attempt to treat mind empirically, philosophy often suffered more through its contact with material and natural science than it gained. Metaphysicians, temporarily turned psychologists, have had an amazing faculty for sanctioning prematurely the most specious scientific hypotheses ; and when they have happened upon a correct theory, they have shown incredible ingenuity in twisting it into fantastic patterns.

One of the first adaptations of natural science to the needs of psychology occurred when Galen classified the human temperaments by reference to the four humours which, according to Hyppocrates, coursed their way through the body of man. It was Hyppocrates' belief that all of the four important elements of the universe found their counterpart somewhere within the human body. The fiery element was represented by blood, the airy by yellow bile, the watery by black bile, and the cold, earthly one by phlegm. Galen became the first medico-psychologist when he proclaimed that by the strength of one or another of these humours was a man's disposition made ardent, irascible, dejected, or apathetic. It has, of course, been a great many years since physicians talked seriously of Hyppocrates' humours ; but reputable text-

books of psychology still classify human temperaments as sanguine, choleric, melancholic, and phlegmatic. Galen's explanation of human personality was hardly questioned until the philosophers of the sixteenth century became fascinated by alchemy. It was then asserted that one man differed from another not on account of his supply of bile or phlegm but by virtue of the amount of sulphur, salt, and mercury with which nature had endowed him.

It was in the next century that science began to learn something of the circulation of the blood and of the delicate and intricate anatomy of the nervous system. This knowledge the great Descartes used in his psychological speculations ; but he employed it to describe how the corporeal " animal spirits " which possessed the body could get into communication with the incorporeal soul which inhabited the pineal gland. In 1714, Leibnitz applied his precocious understanding of embryology to proving that God, in His " supreme perfection," had made the human soul immortal by creating it from a special form of seed which could not be destroyed but would live eternally. Again, when Signor Mantegazza learned from Darwin of the basal instincts, he combined this information with his knowledge of chemistry and wrote his famous *Philosophy of Love*, which advanced the thesis that psychic vapours given off from the human body cause the phenomenon which in the peppy idiom of to-day is known as " It " or sex-appeal.

The similarity of all these attempts to apply science to mind is so striking, that one wonders if they do not have a common explanation. If they do, the guilt must be laid to the illustrious philosophers of Hellas. It was they

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

who charted the course which psychology followed for so many centuries. It was their belief, as Aristotle summarised it, that the duty of a psychologist was to "discover and ascertain the nature and essence of the soul and, in the next place, all the accidents belonging to it." The Greeks repeated this opinion so continuously and with such assurance for so many hundreds of years, and the Christian theologians who succeeded them in philosophical dominance accepted it so hospitably, that in time it became a dogma. Diderot's *Encyclopédie* proves that even in the eighteenth century no philosopher doubted that psychology should content itself with defining the human soul and describing its activities.

About one other psychological point, most of the early Greeks were in accord. That was that the soul was composed of the finest substance to be found in the universe. It was only necessary to decide upon the nature of this superior essence and the greatest problem would be solved. When, however, they came to naming the Universe's purest matter, personal preferences shattered the philosophic amity.

Heraclitus, whose opinion must be considered first because he was the oldest, said that the soul was a fiery vapour. Democritus described it more particularly as fire and heat, invisible yet still resembling the sunbeams that stream through the window on a bright morning. Diogenes contended that the soul was simply air. Epicurus combined the ideas of his three predecessors, but made his own conception mysterious by declaring that the soul was a complicated mixture of fire, air, a certain strange vapour, and a fourth substance, unknown and unknowable but wonderful. Hippon, who

should be hailed as the patron saint of the prohibitionists, identified the soul with water. But some less squeamish materialists like Critias called the soul blood.

This idea of making the soul a palpable and material substance was congenial to many of the early Church Fathers, but they treated the subject more imaginatively than their forerunners. They were able to identify the bright, fiery vapours which so many of the Greek attributed to the soul. These spiritual gases, said the patristic philosophers, were literally the breath of God. That part of His breath which becomes the soul of a man assumes a shape very much like his body ; and it has organs like the body, too, which it can use after death has happily divorced the two. In states of high religious ecstasy, the Fathers could see their own souls and those of others floating about as convincingly as Southern Negroes see the ghosts in graveyards.

This graphic materialism, while satisfactory to most of the earlier Greeks and to many of the theologians, was too simple and gross for the more advanced thinkers. Even in the fourth century B.C., Anaxagoras had despaired of ever identifying the soul with any form of matter. Its fine, pure essence, he thought, was intrinsically different from the base material substance of the human body. This essence he could describe only negatively, but the philosophers, who followed him in the attempt to make the soul completely spiritual, had aid from a source far removed from sober speculation. The votaries of Dionysos had by now publicized the fact that, while their bodies lay writhing and twitching upon the ground in frenzies of religious ecstasy, their minds travelled to a realm far removed from earthly existence.

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

It was Plato who rationalized such phenomena and found in them proof that the soul is immortal. The soul, he declared, was pure and good and imperishable and therefore absolutely different from the body, whose most conspicuous activity was the hindering of the spirit's search for knowledge. The soul's relation to the body Aristotle explained by saying it gave form to it just as a signet ring lends its shape to the mobile wax into which it is pressed. These opinions of Plato and Aristotle dominated all psychological thought until the seventeenth century, when Descartes made their dualism more explicit by proclaiming that the body occupied space and could not think, while the soul filled no space at all and contained within itself all of the cogitateness of the world.

After defining the soul in these various ways, the ancient psychologists turned their attention to its "accidents." Its most important mishap seemed to be its connection with the lowly and almost despicable body. The physicians of ancient Egypt had discovered that the brain was the organ whose injuries affected intellectual activities most greatly, and Galen tried to make psychologists accept the fact that the mind must be situated in the brain. He had small success, however, in combating the theory of Aristotle, which placed the soul in the heart because it was the centre of the body, or the doctrine of Plato, which taught that the soul had three separate and distant parts and as many locations. The rational portion of the soul Plato conceded to the brain, but the "spirited principle" he placed in the heart, and the desires in the more unseemly lower organs. Such localizing of the spirit was a bit too

definite for many of the Church Fathers. Gregory of Nyssa declared, "it must be believed that the mind through some inexplicable plan of blending is distributed in all parts of the body, relatively to their importance." Descartes, however, surpassed all of his forerunners when he proclaimed :

"After careful examination, it seems to be quite evident that the part of the body in which the soul immediately exercises its function is neither the heart, nor even the brain as a whole, but solely the most interior part of it, which is a certain very small gland in the middle of its substance," which he called the *conarium*, but which was later identified as the pineal. In this manner Descartes described all human mentality : "The whole action of the mind consists in this, that by the simple fact of its willing anything it causes the little gland, to which it is closely joined, to produce the result appropriate to the volition . . . imagine, attend, and move the body."

Having decided, each to his own satisfaction, what and where the soul was, the classical psychologists began to wonder how it functioned. Plato, in harmony with its three locations, assigned to the soul three powers : thinking, willing, and desiring. These powers, however, were complex and every one of the three could be further subdivided. Thought, for instance, according to the correctness of its judgment, could in turn become conjecture, belief, understanding, or pure reason. Aristotle, also, inclined toward a triple division of the spiritual life ; but as he was tolerant enough to attribute

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

a soul to plants and animals as well as men, the faculties into which he partitioned it were nutrition, sensation, and reason, with a fourth activity called locomotion, which, appropriately enough, could not be confined within any of the three more stable powers.

It was the belief of the Stoics that a natural and rational mind contained eight parts : vision ; audition ; the three lower senses of smell, taste, and touch ; and the three higher faculties of intellection, vocalization, and procreation. Unhappily, though, these followers of Zeno found few minds which were either natural or rational. Most of those with which they came in contact were irrationally and unnaturally perturbed and exhibited such undesirable activities as pleasure, fear, delight, grief, desire, extravagant joy, pity, emulation, pain, sorrow, jealousy, anguish, and confusion.

The Stoical idea that pleasure and desire, pity and delight were unnatural and irrational perturbations had, of course, its elements of appeal to the patristic philosophers, but they were not convinced that the breath of God could be so perturbed or that it would indulge in such earthly activities as seeing, smelling, hearing, procreating, and thinking. Tertullian, therefore, stated concisely that the soul and mind were two different entities, and that the breath of God in man had only two faculties : freedom of the will and the gift of divination. This logic seemed unassailable, but it presented difficulties. If the mind and soul were unrelated and the soul, alone, was of any importance and it received all its necessary information through divination, of what use were the treatises of the theologians, whose appeal was deemed to be mental ? So the astute

PSYCHOLOGY BEFORE 1890

Saint Augustine, fascinated by the three-in-one principles of the Greeks, brought the mind into theological psychology once more in his Trinitarian doctrine, whose broader paraphrase is still heard in so many Christian churches to-day :

“ These three, memory, understanding, will, are not three lives, but one life ; not three minds, but one mind ; it follows certainly that neither are they three substances, but one substance. . . . And, therefore, while all are mutually comprehended by each, and as wholes, each as a whole is equal to each as a whole, and each as a whole at the same time to all as wholes ; and these three are one, one life, one mind, one essence.”

The identification of Christian theology with Aristotelianism was made more complete when Thomas Aquinas, in his *Summa Theologica*, proclaimed : “ There is only one soul as to number in man, which must be deemed at the same time nutritive, sensitive, and rational.” This conception governed psychology until Descartes denied the human soul the lowlier functions of nutrition and sensation and granted it only one power, that of thought or reason. Thus soul and mind were identified completely and set in active opposition to the body.

For a hundred years or more, psychology remained predominantly rational, but psychologists were not long content with the Cartesian doctrine which limited the intellectual power to passive and active reason. They remembered that Plato had been able to distinguish at least four kinds of thought, and they wondered if there were not many other higher mental faculties. As they

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

wondered, they invented. Each year added more powers to the soul. Under the influence of Christian von Wolff in the eighteenth century, the number of mental activities which psychology recognized was prodigious. There was no longer the simple power of memory ; there were, instead, innumerable memorial faculties : a memory for words, a memory for numbers, a memory for faces, a memory for places, and a memory for anything else that an energetic psychologist could conceive of. So strong was the faith in these separate compartments of the mind that Franz Joseph Gall claimed to know the exact spot in the brain where every one of the following powers was located :

AFFECTIVE FACULTIES :

Propensities :

Desire to live
Alimentiveness
Destructiveness
Amativeness
Philoprogenitiveness
Adhesiveness
Inhabitiveness
Combativeness
Secretiveness
Acquisitiveness
Constructiveness

Sentiments :

Cautiousness
Approbativeness
Self-esteem
Benevolence
Firmness
Conscientiousness
Reverence
Hope
Marvellousness
Ideality
Mirthfulness
Imitation

PSYCHOLOGY BEFORE 1890

INTELLECTUAL FACULTIES :

Perceptive :

Individuality	Calculation
Configuration	Eventuality
Size	Time
Weight and Resistance	Tune
Colouring	Language
Locality	
Order	

Reflective :

Comparison
Causality

If the intellectual dominance of the faculty psychologists of continental Europe had been as absolute as that of the Greek and patristic philosophers, this persistent search for the powers of the soul might never have ended. As early as the seventeenth century, however, the English had begun to voice their opinion upon mental phenomena ; and already psychology was changing.

The British psychologists, from Hobbes to Spencer, were chronically interested in the morals of their community, but—perhaps because they were for the most part physicians and statesmen, in contrast to the monks and philosophic recluses of the Continent—their moralizing had about it the novel and refreshing quality of common sense. Moreover, they displayed a characteristic reticence about discussing delicate matters openly. Whatever may have been their private religious con-

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

victions, they did not talk publicly about the soul. They sought a basis for their philosophy which would be more substantial, if less elegant, than a formative principle, or a rational power that dwelt in the pineal gland.

The first English psychologist of importance is Thomas Hobbes. He can hardly be called modern in the strictest meaning of that term. His faith in animal spirits was as firm as Descartes' or Aristotle's. He, also, wrote just as fluently of the faculties of nutrition, reason, sense, and motion, as the Greeks had done and as the philosophers of France and Germany were still doing—but with this specific and all-important difference: he described them unequivocally as "natural" faculties and said that they were of only two kinds, those of the body and those of the mind. As far as the future of British psychology is concerned, however, he wrote of something even more memorable: "the coherence of conceptions."

Aristotle had touched upon this subject in his tract *On Memory and Reminiscence*. He had suggested that the most satisfactory way to "awaken" recognition of a dimly remembered object or idea was to search through the mind for other processes which were "similar or opposite or contiguous" to the half-forgotten one. The monastic and faculty psychologists had thought such practical advice scarcely worth pondering over, when Aristotle had had such elevating opinions about the soul's form and faculties. So when Hobbes in 1615 wrote: "from St. Andrew the mind runneth to St. Peter, because their names are read together; from St. Peter to a stone, for the same cause; from stone to foundation, because we see them together; and for the same cause,

from foundation to church, and from church to people and from people to tumult," he started almost afresh a line of inquiry which was to dominate psychology for centuries—and was to have its most spectacular flowering in the theories of Sigmund Freud: the problem of the association of ideas.

When Hobbes wrote his description of how the mind recalls its past and half-forgotten experiences into consciousness once more, a description which has been paraphrased and demonstrated and elaborated in so many thousands of psychological novels, he did not consider it an especially important part of his psychological system. And John Locke, who followed him chronologically in English philosophy, thought that association was an accidental and probably erroneous means of mental connection. But David Hume saw in it proof that mental processes are subservient to natural laws. Association seemed to him to be a kind of gravitation of ideas, and he exclaimed, with some excitement: "Here is a kind of **ATTRACTION**, which in the mental world will be found to have as extraordinary effects as in the natural, and to show itself in as many and as various forms."

After this, the notion that mental processes should be described in terms of scientific analogy became almost a philosophical obsession. David Hartley sought to connect association more intimately with Newton's theory when he advanced his thesis that vibrations in the white medullary substance of the brain cause the ideational connections. James Mill described the principle of association as a "mechanics of ideas"; his son John Stuart Mill treated it as "mental chemistry."

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

Finally, Herbert Spencer declared that in its history from amœba to man, mind had become more complex and thus more intelligent as mental processes had become more cohesive or associative. It was mainly through his faith in association that he was able to affirm : “ There goes on subjectively a change from an indefinite, incoherent homogeneity to a definite, coherent heterogeneity ; parallel to that re-distribution of matter and motion which constitutes Evolution as objectively displayed.”

The problem of association ran continuously, and with a stabilizing effect, through the whole of British psychology ; but now that ideas had come to hold the dominant interest of psychologists, there were other questions to be answered about them which were just as important as their mode of connection. The most urgent had to do with their origin. To philosophers who conceived the mind as being an integral part of, if not identical with, the supernatural soul, the problem of how it got its ideas was really no problem at all. A soul, touched by divinity and only by the merest chance connected with a material body, could, presumably, acquire its thoughts in numberless ways. It could be born with them ; it could arrive at them through holy divination ; or it could snatch them from the thin air as modern mediums gather up the messages of departed spirits. But a psychology which had forsworn using the soul as a touchstone of all truth had to account for human knowledge in a natural and intelligible manner.

The first to attack this problem was John Locke, and he attacked it so thoroughly and with such vigour that the belief in innate, God-given ideas received a wound

which even the tenderest care of extreme mystics has not been able to heal. Locke was not an impious man and he was perfectly willing to admit that, ultimately, God must be the source of all knowledge, for he found it humanly impossible to doubt the existence of God. He also believed, however, that man was primarily a reasonable being, and he liked to think that God so considered him. Although he never doubted that God had the power to reveal knowledge directly and divinely to man, he doubted seriously that He ever did. Rather, he believed that God respected the rational ability with which He had endowed the favourite of His creatures and would let him acquire his knowledge of the world and his wisdom of life by methods which were completely compatible with natural laws and common sense, however laborious and painful such a process might be.

So Locke proclaimed unhesitatingly that man is born with a mind as blank as a piece of "white paper, devoid of all characters, without ideas." He also declared that there was only one agency which could make the characters appear upon this paper, and that was the arduous course of human experience. Finally, he believed that the mind gained experience by only two means, by sensation and through reflection. By way of the ears and the eyes and the nose and the tongue and the tactile senses, it derived such simple qualities as "yellow, white, heat, cold, soft, hard, bitter, sweet." When the mind, having received these elementary impressions, sets about to reflect upon them, it automatically produces new ideas and operations: "perception, thinking, doubting, believing, reasoning, knowing, willing."

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

In a manner resembling that in which Huxley was later to clarify and point the theories of Darwin, Hume brought out the scepticism which was latent in Locke's empiricism. In contrast to his psychological forerunner, Hume was an impious man, and he was not dismayed when his neighbours applied to him such terms as heretic and atheist. Though he expressed an aristocratic distaste for the inelegance of Locke's language and the slowness of his thought, Hume adopted many of his ideas and carried them to their logical conclusion. To those who still sought among the elements of human experience, an indestructible, spiritual entity, such as a soul or a higher self, Hume replied : " And were all my perceptions removed by death, and could I neither think, nor feel, nor see, nor love, nor hate after the dissolution of my body, I should be entirely annihilated, nor do I conceive what is farther requisite to make me a perfect non-entity."

Thus did scepticism take its recognized place among other tenets of philosophy. Thus also, after Locke and Hume, psychology came to have a definite subject-matter of its own, a special field in which it worked. It was done with speculations about the soul. Its business was now the investigation of the conscious mind of man. It stopped pondering what the human mind might do ; it began to study the processes of which it was composed : its thoughts, feelings, memories, emotions, and sensations. In other words, it was on the road to becoming a science.

Psychology, however, did not become a science in the country where it was first divorced from divinity. The English philosophers had stopped to settle the empirical

questions of psychology not because they were primarily interested in psychology, itself, but because they wished a firm empirical foundation upon which to rear their massive systems of moral philosophy. They were the first to base human wisdom on lowly perceptions and sensations, but the sensations and perceptions held their attention incidentally. Their real interest lay in loftier things: in abstract ideas of justice, freedom, and conduct. So it was that psychology soon passed from the libraries of England to the universities of Germany.

If one disregards political history and concentrates upon the history of science, it would seem that Europe after 1815 was one gigantic laboratory, and that in every corner of it sat some man carefully studying the performance of some special organ of the human body. There was so much investigating going on, so many treatises being written, and so many names becoming famous: Müller, Helmholtz, Listing, Donders, Wolkman, Weber, Fechner, Mach, Wundt, Hering. These men and their many colleagues were primarily physiologists or physicists, but their names are equally hallowed by scientifically minded psychologists and their work is enshrined in psychological texts.

When a natural scientist investigates the activity of a sense organ, he cannot ignore the mental processes which its stimulation provokes; and the physiologists and physicists who first studied the function and structure of the ear and the eye and the tactual sense organs, amassed a prodigious amount of data about the psychology of vision, sound, and touch. They brought to light all kinds of curious facts concerning these senses. They

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

discovered that the whole surface of the human skin is not equally sensitive to tactual stimulation, but that each sensation of touch—pressure or pain or warmth or cold—has its own specific sense-organ, much tinier and more simple in construction, but just as highly specialized as the more obvious ones of sight and hearing. They found out, similarly, that only the immediate centre of the human retina is sensitive to all colours, while its rim is totally colour blind. They proved that psychological judgments of distance depend not so much upon actual physical extent as upon such physiological processes as eye-movements and such psychological facts as lights and shades. They demonstrated how easy it was to produce spacial illusions in which short lines would be perceived as long, curved lines as straight, and bi-dimensional figures as solid.

All of these facts and hundreds of others like them were of supreme importance to the men who discovered them, when their existence was hardly suspected, and to the sciences in which they were incorporated. However unexciting, or, perhaps, even trivial, they may seem to us, who have learned to think of psychology in terms of James's stream of consciousness, or of Freud's Œdipus complex, or of Watson's conditioned reflexes, these same simple facts of visual and tactual perception still form the greater part of the evidence upon which academic psychologists base their claim that psychology has become a laboratory science and not merely a recreational pastime of philosophers, physicians, and prosperous executives.

The nineteenth-century physiologists had more to offer future psychologists than nicely verified experi-

ments to demonstrate to their pupils. It was in 1841, when he was only twenty years old, that Johannes Müller declared epigrammatically: *Nemo psychologus nisi physiologus*. The results of the experiments of both himself and his pupils, all sustained his verdict that nothing could occur in the conscious mind which could not be accounted for by a corresponding process in the human body. The English philosophers had already decided that the mind got its earliest and simplest ideas through the senses. The German physiologists undertook to explain how these elementary impressions occurred. For every process which appears in consciousness, they asserted, there must be a specific activity of the nervous system, which is the direct cause of the mental phenomenon.

The services of physiologists to psychology did not end when they had removed it from the treacherous scaffolding of philosophical conjectures to the secure foundation of scientific research. They were able to lift a taboo which had cursed psychology and the possible future of psychology since 1786. It was in that year that Immanuel Kant had prophesied that psychology could never become a science; and there was as much reason as divine inspiration behind his prediction. No subject, he argued, could be a science unless it could be treated numerically, and he defied the most subtle of mathematicians to apply a measuring rod to the faculties and ideas and principles which constituted psychology as he knew it.

In 1834, Ernst Weber saw a possibility of removing Kant's curse. He granted that the higher mental processes could not be measured, and that the simpler ones

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

were not to be estimated directly, but he offered proof that sensations could be measured indirectly. His modest idea has become so elaborate and theoretical under the influence of Fechner and Urban, that it is almost impossible to recognize the simple notion that it was in the beginning, but briefly it was something like this : A physical stimulus is always measurable and a sensation always depends on a stimulus ; thus if we discover the exact amount of stimulus which produces a certain sensation, and the exact amount of stimulus needed to evoke a second sensation which is just noticeably different from the first, if we then express both sensations in terms of their stimuli, the relation between them can be computed, and some slight portion of the mind will have yielded itself to mathematical treatment.

Weber, himself, was content to express the relation between stimulus and perception in such relatively simple terms as arithmetic and geometric progressions ; but Fechner introduced logarithms into psychological speculation, and after that, things began to get extremely complicated. Charts and graphs and pages and pages of statistics were brought to bear on the simplest of sensations. After Hering and G. E. Müller and Urban had offered their contributions, it was necessary for a psychologist to understand the intricacies of the higher mathematics, before he could venture an opinion as to how blue a colour looked, how loud a tone sounded, or how heavy a weight felt. The ultimate value of this excessive measuring can only be estimated in the latter course of psychology ; but for the time being a goal had been achieved. No one, who had so much as glanced at the charts and graphs and logarithms and progressions

and strange notations and characters, would ever again whisper Kant's conviction that psychology could not be mathematical.

Now that psychology had freed itself of metaphysics and the speculations about the soul, had found a firm foundation in physiological research, and had shown itself amenable both to rigid experimentation and mathematical treatment, the time was ripe for someone to declare formally that psychology was already a respectable science and had as much right to be so considered as had biology or physics or astronomy or chemistry. It fell to the lot of Wilhelm Wundt, while professor of physiological psychology at Heidelberg, to make this declaration. His *Grundzüge der Physiologische Psychologie*, of 1873-74, was the first self-conscious manifesto of a psychologist. Its six subsequent editions, the last in 1911, served chiefly to clarify his conceptions of what the science of psychology should be and what a scientific psychologist should do.

Wundt did more than assert that psychology was as exact a study as physics; he claimed that of the two it was the fundamental science. The realities of the physicist, he argued, must always be abstractions, measurable, it is true, but never tangible or visible—mediate experiences, he called them. The psychologist, on the other hand, can always observe the consciousness, which he studies, directly and immediately. And Wundt had very definite ideas about the proper psychological attitude toward this fluctuating mass of conscious process which for him comprised the human mind. The psychologist, he thought, should approach it in much the same spirit that a chemist investigates an unknown

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

substance in a test tube. He should first seek to analyse it into its elements, and then try to fit the mental bits together once more. Psychological analysis, however, must always be more difficult than that of chemistry. For, he explained, “ while in natural science it is possible, under favourable conditions, to make an accurate observation without recourse to experiment, there is no such possibility in psychology.” In effect, Wundt cautioned all psychological investigators : Never trust an observation about the human mind which was not made under the strictest possible experimental conditions.

CHAPTER III

THE INTROSPECTION OF WILLIAM JAMES

WHEN Wundt's *Physiologische Psychologie* was some five years old, Henry Holt decided that America should have its own authoritative text upon the subject. He commissioned William James to write it. Holt hoped that the book would be ready within a year, but James thought two might be needed for the research. Actually he devoted twelve years to its preparation, for it required a review not only of the elaborate theories which constituted the old psychology, but of the ever-widening bulk of experimental research which bolstered up the new. James said, himself, that he had to forge every sentence of it in the teeth of irreducible and stubborn facts. It was published in 1890 as the *Principles of Psychology*.

In his *Talks to Teachers*, which appeared a few years later, James remarked simply and with disarming frankness: "I say at once that in my humble opinion there is no 'new psychology' worthy of the name." Except that it had borrowed a bit here and there from biology and physiology, and had refined its technique to some extent, the subject, he maintained, had not changed since the time of Locke. His meaning is clear enough, yet it is rather disconcerting to find this the matured

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

opinion of America's first champion of the new psychology. The beliefs of the student who had once been so enthusiastic about the work of Wundt and Helmholtz, had, it would appear, undergone considerable change in thirty-two years. They had ; and in his *Principles* he had evaluated the new science more explicitly.

So long as psychology had been controlled by British empiricism, James described it "as still generally intelligible." Then he added, almost with a sigh : "But psychology is passing into a less simple phase. Within a few years what one may call a microscopic psychology has arisen in Germany, carried on by experimental methods, asking, of course, every moment for introspective data, but eliminating their uncertainty by operating on a large scale and taking statistical means. This method taxes patience to the utmost, and could hardly have arisen in a country whose natives could be *bored*. Such Germans as Weber, Fechner, Vierordt, and Wundt obviously cannot ; and their success has brought into the field an array of younger experimental psychologists, bent on studying the *elements* of the mental life, dissecting them out from the gross results in which they are embedded, and as far as possible reducing them to quantitative scales. The simple and open method of attack having done what it can, the method of patience, starving out, and harassing to death is tried ; the Mind must submit to a regular *siege*, in which minute advantages gained night and day by the forces that hem her in must sum themselves up at last unto her overthrow. There is little of the grand style about these new prism, pendulum, and chronograph-philosophers. They mean business, not chivalry. What generous divination,

THE INTROSPECTION OF WILLIAM JAMES

and that superiority of virtue which was thought by Cicero to give a man the best insight in nature, have failed to do, their spying and scraping, their deadly tenacity and almost diabolic cunning, will doubtless some day bring about."

One is, of course, at liberty to choose between chivalry and business, between the grand style and the deadly tenacity; and James's own temperament forced his choice. Unlike Weber and Fechner and Wundt, he was adequately capable of boredom. And, as he soon found out, one thing which bored him exquisitely was the microscopic psychology which had arisen in Germany and which he had, himself, discovered there. By 1892, his ennui became so acute that he had to beseech Hugo Münsterberg to relieve him of its cause. In urging the German professor to come to Harvard and take entire charge of its laboratory, James mentioned a feeling more violent than boredom. "I naturally hate experimental work," he wrote. Later when he was obliged to direct research studies once more, because Münsterberg was on leave, James declared that he would quit Harvard for good rather than be tied down indefinitely to the everlasting spying and scraping upon the mind with prisms and pendulums.

This must have sounded like rank heresy to those other Americans who were then so busily emulating the Germans in piling up carefully verified, minutely tabulated experiments; but to James it was nothing of the sort. After he had seen the Teutonic investigators at work a second time, he found that the awe in which he had originally held them had somehow evaporated. Wundt, he admitted, aimed to be a Napoleon of the

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

intellectual world. But he commented dryly, "Unfortunately he will never have a Waterloo, for he is a Napoleon without genius and with no central idea." Of Wundt and all his psychological colleagues, Hering and Mach and Stumpf and the rest, James remarked, "They are not so different from us as we think. Their greater thoroughness is largely a result of circumstances. I found that I had a more *cosmopolitan* knowledge of modern philosophic literature than any of them, and shall on the whole feel less intimidated by the thought of their like than hitherto." Even while Teutonic thoroughness intimidated him the most, James had a sneaking distrust of it. At the very time that its experimental methods had the strongest appeal for him, he had written to Oliver Wendell Holmes the younger (then a student at Harvard), "The German character is without mountains or valleys ; its favourite food is roast veal."

One may speculate upon just how fond James was of that tasteless dish, but one may be sure that he had no appetite at all for the *pièce de résistance* of the scientific psychologists : the elements of mind. Almost alone among his generation he carried on his "struggle against the view that sensations are immutable psychic things which coexist with higher mental functions." There are more than twelve hundred pages in the two volumes of the *Principles*, but only forty-four are devoted to the subject of sensation. When he boiled down this larger work to some four hundred pages suitable for classroom use, James did add to its opening chapter on Sensation in General several others describing the experimental work upon the special senses. But, as he confided to his publisher, he injected such "twaddle" for the

THE INTROSPECTION OF WILLIAM JAMES

same reason he blackened the tops of all the paragraphs, to produce "a tome of pedagogic classic which will enrich both you and me, if not the student's mind."

James did not deny the possible existence of the elementary experiences of taste, smell, sound, touch, and vision, whose ferreting out was the chief concern of the experimental psychologists. He doubted, however, that sensations could be experienced in their original simplicity except by the most innocent of babes. And he refused positively to believe that the varied panorama of the adult mind could ever be reduced to such lowly, meaningless elements, as the Wundtian investigators hoped soon to reduce it. They likened the sensation to the essential materials of chemistry; James depicted it as more nearly resembling the embryo of biology.

"The very first sensation which an infant gets," he wrote, "is for him the outer universe. And the universe which he comes to know in later life is nothing but an amplification of that first simple germ which, by accretion on the one hand and intussusception on the other, has grown so big and complex and articulate that its first state is unrememberable. In his dumb awakening to the consciousness of *something there*, a mere *this* as yet, all the 'categories of the understanding' are contained. . . . Here the young knower meets and greets his world; and the miracle of knowledge bursts forth, as Voltaire says, as much in the infant's lowest sensation as in the highest achievements of a Newton's brain."

It was because his view of sensation differed so radically from that of his contemporaries that James could describe the new psychology as non-existent. So sure were its adherents that the highest mental activity was

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

in reality only a combination of psychic elements, that all their research was directed towards dissecting out these simple processes and describing them. To James, who was convinced that sensations evolved so rapidly into other functions that their first simple state was soon unrememberable, the result of such microscopic psychology was entirely without meaning.

Yet as proof of the prevalence of adult sensations, the experimentalists exhibited not only qualitative descriptions of them but their numerical measure. Since Fechner had glorified Weber's Law with complex mathematics, this quantitative psychology had attained an impressive status. What could James do about this whole doctrine of psycho-physics if he allowed sensations only to babies ? James could dismiss it in its entirety, as he did in these words :

“ Fechner himself indeed was a German *Gelehrter* of the ideal type, at once simple and shrewd, a mystic and an experimentalist, homely and daring, and as loyal to facts as to his theories. But it would be terrible if even such a dear old man as this could saddle our Science for ever with his patient whimsies, and, in a world so full of more nutritious objects of attention, compel all future students to plough through the difficulties, not only of his own works, but of the still drier ones written in his refutation. Those who desire this dreadful literature can find it ; it has a ‘ disciplinary value ’ ; but I will not even enumerate it in a foot-note. The only amusing part of it is that Fechner's critics should always feel bound, after smiting his theories hip and thigh and leaving not a stick of them standing, to wind up by saying that nevertheless

THE INTROSPECTION OF WILLIAM JAMES

to him belongs the *imperishable glory* of first formulating them and thereby turning psychology into an *exact science*.

“ ‘ And everybody praised the duke
Who this great fight did win.’
‘ But what good came of it at last ? ’
Quoth little Peterkin.
‘ Why that I cannot tell,’ said he,
‘ But ’twas a famous victory ! ’ ”

This is, of course, James’s personal estimate of experimental psycho-physics. It was shared by few of his contemporaries, for when the *Principles* was first published there were almost as many American perpetrators of Fechner’s patient whimsies as there were German. Even to-day, after psychology has undergone so many changes and developed such varied aspects, an astonishingly large part of the investigations carried on at Yale, Princeton, Cornell, Columbia, and even at Harvard itself, are further extensions of this dry and dreadful literature. The psychic mathematicians, who are so sure that the elements of mind must and can be measured, attribute James’s light dismissal of the problems so dear to them to a faulty appreciation of experimental results. Yet even the strictest experimenters, when they meet in solemn conclave to name America’s most distinguished psychologists, always write as the first name that of William James.

Few academic psychologists in commenting upon his work fail to mention James’s “superb literary gift.” The very ardour, however, with which these mental explorers turn critics of the æsthetic whenever they discuss his theories, becomes, with so much repetition, a

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

little suspect. One gathers that they mean to insinuate, ever so innocently, that James gained his leadership just a trifle dishonestly, by injecting an extrinsic trick of verbal dexterity into a staid and serious subject. But behind James's undeniable facility with words, and intimately connected with it, was another quality, not so often mentioned but too seldom found in psychology since he ceased to write it. James may have lacked an appreciation of experimental results, but he had a keen feeling for human values. His attitude toward psychology may have been only moderately scientific, but there was about it an urbanity, a touch of humour, and lightness, a gracious self-sufficiency—attributes which to him characterized the gentleman.

Humour and lightness may not be essential components of the scientific attitude, but they are no more extraneous to it than academic dogmatism and a blind loyalty to accepted theories. They are qualities which most psychologists have lacked conspicuously, and seldom to their advantage. The history of their subject is too little the record of a steadily developing science and too much the story of mutually exclusive psychic sects. A confirmed Wundtian will reject every idea of Freud's merely because it is psychoanalytical; and a good Freudian will ignore each fact of behaviourism just because it is *not* psychoanalytical. But James, who was bound by nothing but his own private convictions, could discard both the analysis of sensations and their measurement, and yet take from the Germans all of their psychology which seemed to him acceptable.

One belief that he shared with them was that consciousness was the proper subject-matter of psychology

THE INTROSPECTION OF WILLIAM JAMES

and introspection its most efficacious method of study. Neither assumption was, however, exclusively German. It was really the English associationists who had assigned consciousness to the science. And as to the propriety of introspection, within the nineteenth century only Auguste Comte had doubted it; and John Stuart Mill was supposed to have given the final answer to his scepticism.

Comte had maintained that "this pretended direct contemplation of the mind by itself is a pure illusion." For how, he had asked, can a thinker "divide himself into two, of whom one reasons whilst the other observes him reason?" And should he cease reasoning entirely and attain a kind of intellectual slumber, so that the mind would be free for observing, then what would be left for it to contemplate? Nothing, said Comte, the whole method is "radically null and void." So he looked confidently forward to the day when "such pretensions" would be "ridiculed upon the stage."

To all of which Mill had replied politely that M. Comte had forgotten that man possesses the power of recollection, and that by the use of this faculty he can study his mental acts, if not just as they are occurring, then at least the very moment after, while the memory of them is still fresh. "This simple fact," said Mr. Mill, "destroys the whole of M. Comte's argument." And there the matter rested until one day in 1912 when John B. Watson brought it up again.

Another assumption which James held with the Wundtians was that the primary cause of any mental process is always a corresponding activity in the nervous system. But here, once more, he was favouring no one

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

group of scientists more than another. The doctrine of *nemo psychologus nisi physiologus* was of paramount importance to Müller and his school of physiologists ; but it was believed just as firmly, and from more varied evidence, by the English biologists. Indeed it was Thomas Huxley who had carried it to its logical mechanistic conclusion.

“ The consciousness of brutes,” Huxley wrote, “ would appear to be related to the mechanism of their body simply as a collateral product of its working, and to be as completely without any power of modifying that working as the steam-whistle which accompanies the work of a locomotive engine is without influence on its machinery. Their volition, if they have any, is an emotion *indicative* of physical changes, not a *cause* of such changes. . . . It is quite true that, to the best of my judgment, the argumentation which applies to brutes holds equally good of men ; and therefore, that all states of consciousness in us, as in them, are immediately caused by molecular changes in the brain-substance. It seems to me that in men, as in brutes, there is no proof that any state of consciousness is the cause of change in the motion of the matter of the organism. If these positions are well based, it follows that our mental conditions are simply the symbols in consciousness of the changes which take place automatically in the organism ; and that, to take an extreme illustration, the feeling we call volition is not the cause of a voluntary act, but the symbol of that state of the brain which is the immediate cause of that act. We are conscious automata.”

Although he considered this radically mechanistic

THE INTROSPECTION OF WILLIAM JAMES

theory, as he called it, seductive, James could not subscribe to it whole-heartedly. If mind had evolved, he argued, it must have developed for some use. And what more natural function could it have than the guiding of the nervous system in the way it wished it to go? In this manner he was inclined to think that the true criterion of consciousness was "the pursuance of future ends and the choice of means to their attainment." Surely no locomotive whistle has such powers as these.

Despite his growing suspicion that the mind might influence the body as surely as the body conditions the mind, James promised that while he treated psychology as a natural science he would "assume without scruple at the outset that the uniform correlation of brain-states with mind-states is a law of nature," or to "postulate complete determinism." So long as he forgot his scruples and stuck to his postulates he made man seem a rather mechanistic animal. One by one he reviewed the psychic functions of classical psychology and redefined them in terms of physiological activity.

The most complex habit he described as a chain of reflexes. As association is, after all, just a form of mental habit, it, too, must be caused by the reawakening of old pathways in the brain. Since thought, even at its creative best, is always guided by former associations, it is also primarily dependent upon these connecting roads in the cerebrum. As for perception, memory, reasoning, and the education of the will, they, James says, "are best understood as results of the formation *de nova* of just such pathways of discharge."

If later research has not yet discovered these alley-

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

ways of the brain to be quite so definitely mapped out as his description seems to depict them, and if it has found the lower nervous centres to be more intimately important to the very highest functions than he supposed, that is not James's fault. He was employing the conventional neurological conceptions of his day. If the general dependence of the mind upon the body is now so commonly accepted that one wonders why James felt compelled to stress the fact with each psychic faculty he discussed, then one begins to realize how recently, and how reluctantly, psychologists came to believe in mental determinism. As often as he referred to the cortex in explaining the more intellectual activities, it was in his treatment of the emotions that James expounded his most naturalistic theory.

Emotions had, of course, interested both biologists and philosophers for many centuries. Even the aloof, rationalistic Descartes had written a famous chapter about the passions. It was Charles Darwin, however, who first studied their outward expression in a thoroughly scientific fashion. He spent almost forty years gathering data about them. He observed grown men and children, normal people and insane, and he studied both animals and savages. As a result of this work he was able to classify the human emotions in three great categories.

First of all, there are the emotions which survive in civilized man as a modified version of postures and gestures which, in its more primitive state, were highly beneficial to the organism. A sneer now serves no good purpose, unless it be to identify the villain of a melodrama. Yet, says Darwin, when a man sneers he curls

THE INTROSPECTION OF WILLIAM JAMES

his lip and bares his teeth precisely as an animal does when it snarls. Once it was very useful for *homo sapiens* to be thus prepared to meet an approaching enemy.

Not all of our emotions can be so simply accounted for. The in-drawn chest and shrunken shoulders which characterize humiliation could never have been put to an effective end. No, Darwin admits, but points out that humiliation is the emotional antithesis of indignation. And the dejected attitude of the humiliated person gives a picture of complete contrast to the squared shoulders and out-thrown chest of an indignant man ready for battle.

This still leaves out of consideration such emotional expressions as the panting and trembling which denote extreme fear. They are useless and they cannot be regarded as the antitheses of other activities which are. They, Darwin thought, are altogether unfortunate, but must be attributed to the necessarily high-strung condition of the mammalian nervous system.

Biologically, or in reference to their outward expression, all the emotions could be neatly tucked away into this broad classification; but their psychological description still remained vague and unscientific. It was to this problem that James bent his attention. Like Darwin, he too found a fundamental relation between the emotions and the instincts. "Every object," he declared, "that excites an instinct excites an emotion as well." But he drew this distinction between the two: "The reaction called emotional terminates in the subject's own body, whilst that called instinctive is apt to go farther and enter into practical relations with the

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

exciting fact." Or, more concisely, "An emotion is a tendency to feel, and an instinct is a tendency to act, characteristically, in the presence of a certain object in the environment."

It was in his description of the characteristic feeling which terminates in a man's own body when he meets a certain object in his environment, that James wrote the passage which is probably the most quoted in psychological literature, and perhaps the most persistently memorized by students. It is usually referred to as the James-Lange Theory of Emotion, because Carl Lange of Copenhagen developed an almost identical thesis at the same time. James, however, worked out his own version of it quite independently of the Danish professor, and this is how he stated it :

"Our natural way of thinking about these coarser emotions is that the mental perception of some fact excites the mental affection called the emotion, and that this latter state of mind gives rise to the bodily expression. My theory, on the contrary, is that the bodily changes follow directly the perception of the exciting fact, and that our feeling of the same changes as they occur is the emotion. Common sense says, we lose our fortune, are sorry and weep ; we meet a bear, are frightened and run ; we are insulted by a rival, are angry and strike. The hypothesis here to be defended says that this order of sequence is incorrect, that the one mental state is not immediately induced by the other, that the bodily manifestations must first be interposed between, and that the more rational statement is that we feel sorry because we cry, angry because we strike,

THE INTROSPECTION OF WILLIAM JAMES

afraid because we tremble, and not that we cry, strike, or tremble because we are sorry, angry, or fearful, as the case may be. Without the bodily states following on the perception, the latter would be purely cognitive in form, pale, colourless, destitute of emotional warmth. We might then see the bear and judge it best to run, receive the insult and deem it right to strike, but we should not actually *feel* afraid or angry."

It is usual enough to describe Boston as the Hub, but not so common to think of sedate, fair Harvard as America's emotional centre. Yet so it is, both psychologically and physiologically. Not only was James's theory conceived there, but in the same physiological laboratory where he was once an instructor, Walter B. Cannon and his associates performed their now famous researches upon the bodily changes in emotional excitement.

Cannon first became interested in this subject not through psychological reading, but because of a hitch in his investigations of the peristaltic movements of the alimentary canal. He would be studying, by means of Röntgen rays, the stomach of a well-fed cat, watching its rhythmic contractions, when suddenly, and sometimes for as long as an hour, there would be no movements to record. The stomach wall would be entirely relaxed, its half-digested contents quiescent.

Gradually Cannon realized that whenever the peristaltic waves were stopped thus dead in their tracks, the animal to whom the stomach belonged would show, by a nervous twitch of its tail or a tense, restive air, that it was emotionally excited in some way. So he decided

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

to investigate at first hand these affective disturbances which interfered so effectively with the orderly routine of digestion. Since then he has studied them thoroughly. He and his pupils have experimented not only upon cats and dogs and rabbits, enraged or terrified by their captivity, but upon medical students worrying over imminent examinations, and upon victorious football teams. In brief, this is what they have found :

Any strong emotional excitement—rage, pain, fear, or even joy or sorrow if it is intense enough—arouses immediately the sympathetic division of the autonomic nervous system. The impulses travelling over this system are delayed at sub-stations of ganglia on their way to the glands and smooth muscles which they innervate. They are thus slower in action and less subject to voluntary control than those which flow directly to the striped muscles from the spinal cord. The nerves of the sympathetic division are, moreover, amazingly diverse. They run out to most of the important glands and organs of plain muscle construction throughout the entire body. They go to the heart, the liver, the bladder, the colon, the intestines, the pupil and tear-glands of the eye, the blood vessels and hairs and sweat-glands of the skin, and to the adrenal glands which lie astride the kidneys.

Naturally, when the autonomic system is thrown into strenuous action through intense excitement, it can play a very merry hell with the orderly conduction of the whole body. It can stop digestion, both secretory and muscular, off short ; for, as Cannon explains, the body then goes on a “ war footing ” and has little time for

THE INTROSPECTION OF WILLIAM JAMES

such mildly pleasant peace-time activities as appetite and elimination. Furthermore, it can quicken the beating of the heart, or slow it down precipitately. It can cause the hairs to stand on end, the blood vessels to contract, and the eyes to secrete tears. And, most important of all, it makes the adrenal glands go industriously to work pouring out their secretions, which in turn cause the liver to release its quantities of stored-up sugar. And these bodily juices provide the best possible tonic for hard-working or tired muscles.

If the arousal of the sympathetic system can cause all this to happen, then to it can be attributed all the bodily upheavals which accompany all the emotions. Yet it is just because any strong emotion is capable of making the viscera perform so many tricks, that Cannon thinks the James-Lange theory should be modified to explain why it is that one emotional experience seems to vary so much from another. James said we are sorry because we cry, afraid because we tremble, angry because we strike. But Cannon has found the influence of the sympathetic system to be so widely diffused that, were the stimulus intense, it could cause a man to weep and tremble as well as strike even though his accompanying subjective experience was only that of wrath. He agrees with James that an emotion without visceral upheavals is no emotion at all, but he believes these disturbances, alone, will not explain why one emotion feels so different from another. Recently Cannon has suspected that the cause of the distinctive qualities of the various emotions is to be found in that lower, and still not thoroughly explored, section of the brain known as the optic thalamus.

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

Should further research prove this hypothesis correct, then James's theory will have to be modified to fit the more accurate facts. This does not mean, however, that it will be scrapped in its entirety, for though they differ in detail the theories of both James and Cannon have this essential in common : they both stress the importance of gross bodily activities in all emotions—even the most refined and civilized. It was for this reason that James's thesis, when first propounded, had such a salutary effect upon psychology. It was all very well for the scientists to state dogmatically that the intellect was a function of the cortex. One can accept the fact that imagination or reason is caused by movements in the cerebral hemispheres, without having any strong personal conviction of it. Few of us become intimately acquainted with our own cerebral hemispheres or with those of our friends. But the violent churning of the viscera produced by intense excitement is experienced daily by all but the most temperate of souls. James's assertion that these bodily upheavals were not mere adventitious accompaniments of an emotion but its very core, brought psychology, at last, down to earth, or more specifically, to the pit of the stomach.

There is more than a touch of irony in the circumstance that James should have made his most lasting impression upon psychology through his naturalistic description of the emotions. Such unseemly manifestations were never his chief concern. The human animal interested him far less when it writhed in the grip of intense excitement, than when, in its hours of comparative ease, it indulged its more intellectual abilities. It was the conscious mind in its contemplative moods—as it perceived, con-

THE INTROSPECTION OF WILLIAM JAMES

ceived, and attended to the world about it, or allowed its faculties of discrimination and reason to play upon its own secret thoughts—that seemed to him most worthy of study. So preoccupied was James with these more intellectual phases of the mind that both Hall and Titchener were agreed that the *Principles* was not a well-rounded, comprehensive system of psychology, but just another theory of knowledge written from a psychologistic standpoint. And there is sufficient evidence, even in James's definition of consciousness, to justify their criticism.

To James the essence of mind was cognitiveness. Every state of consciousness, whatever else it might be or do, always, he believed, possessed the function of knowing. The possible range of human cognition was, in his opinion, almost without limit. It might know material objects, near or distant in time or space; its own past thoughts; and the states of mind of other persons. These last, however, were always got by hearsay. "No thought ever comes into direct *sight* of a thought in another personal consciousness than its own. Absolute insulation, irreducible pluralism, is the law. It seems as if the elementary psychic fact were not *thought* or *this thought* or *that thought*, but *my thought*, every thought being *owned*."

There is surely nothing very startling about this passage but at the time it was written it had a very real significance, not only because it contained the germ of James's later, more mature, pluralistic philosophy, but especially because of its opposition to the tenets of the various Wundtian systems. They all assumed that the data of psychology should be as impersonal as those of

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

physics and could be observed as disinterestedly. To James such an idea was absurd. He maintained that the "personal self, rather than the thought, might be treated as the immediate datum of psychology. The universal conscious fact is not 'feelings and thoughts exist,' but 'I think' and 'I feel.'"

Equally antagonistic to the principles of analytic psychology of that day, but consistent with his own denial of sensations, was his dictum : "There is no manifold of coexisting ideas ; the notion of such a thing is a chimera. Whatever things are thought in relation are thought from the outset in a unity, in a single pulse of subjectivity, a single psychosis, feeling, or state of mind." This consciousness of his was not only unitary, cognitive, and personal, but discriminative and in constant flux. "Consciousness," he wrote for posterity, "does not appear to itself chopped up in bits. Such words as 'chain' or 'train' do not describe it fitly as it presents itself in the first instance. It is nothing jointed ; it flows. A 'river' or a 'stream' are the metaphors by which it is most naturally described. In talking of it hereafter, let us call it the stream of thought, of consciousness, or of the subjective life."

And so, during more than forty years, it has been called, not only by psychologists but by most of those who work with pens and paper. For if his theory of the emotions was James's contribution to naturalistic science, his description of the "stream of thought" has surely been his gift to the world of literature—both to the writers of novels and their reviewers.

THE INTROSPECTION OF WILLIAM JAMES

After he turned over his laboratory to Münsterberg, James, except for that one brief and unwilling year, had nothing to do with its direction. Even while he was in charge of it he carried on a great many of his investigations outside its apparatus-cluttered rooms. These studies, which interested him far more than the facts gained night and day by the experimental method, were in the mysterious realm of psychical research. For one entire winter every Saturday evening found him in attendance at a "cabinet séance." In 1889, he made an exhaustive "census of hallucinations." He sent about elaborate questionnaires, seeking to discover if there was any correspondence between ghostly apparitions and events taking place in the real world. From the seven thousand answers he received, he concluded that there was—by a ratio of four hundred to one!

Whenever one of those bright young men, whose most serious purpose in life is the debunking of its follies, comes upon the back issues of the *Proceedings of the Society of Psychical Research*, and finds that William James was a constant contributor to its pages, that for a year he was the association's president, and until his death one of its vice-presidents, the ardent exposé smiles with satisfaction. When he discovers, further, that the great American psychologist testified quite openly to his belief in the miraculous knowledge of the famous Mrs. Piper, the young debunker is certain that he has come upon another case of a strict scientist who in his leisure hours lets go of the stern postulates of reality and indulges in the wildest flights of supernatural fancy. But his supposition is wrong and he should have had no cause for surprise.

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

James stated his faith in Mrs. Piper's mediumistic revelations in his most serious psychological texts, and in them he expressed the hope that his conviction of her powers might "draw a reader or two into a field which the *soi-disant* 'scientist' usually refuses to explore." Psychical research was much more than a hobby with him. He called Society's sceptical attitude toward its wonders "scandalous," and "discreditable to an age which prides itself on enlightenment and the diffusion of knowledge." He not only expected the revelations of spiritualism "to be the chosen instruments for a new era of faith," but he considered that a "serious study of these trance-phenomena is one of the greatest needs of psychology."

Despite how mechanistic his own exposition of that science might appear upon the surface, a belief in such weird phenomena was not inconsistent with his deeper philosophical convictions. Scientific psychology was for James, after all, a make-believe; a pastime which fascinated him for a while, but which gradually became so distasteful that, at last, the very thought of being called a psychologist seemed fearful to him. Yet so long as he played the game, he tried to follow its rules. When he set himself the task he could write as sceptically and as mechanistically as the best of the determinists; but he clung to, and never denied, his own private convictions.

When writing empirical psychology, James maintained that the sense of personal identity was no different from any other perception of sameness, that "a man's ME is the sum total of all that he CAN call his, not only his body and his psychic powers, but his clothes and his

THE INTROSPECTION OF WILLIAM JAMES

house, his wife and children, his ancestors and friends, and yacht and bank-account. All these things give him the same emotion." When he searched his own consciousness for some evidence of a soul among these more material manifestations of self, James confessed that all he could find was "some brief bodily process, for the most part taking place in the head." From which he concluded that "our entire feeling of spiritual activity, or what commonly passes by that name, is really a feeling of bodily activities whose exact nature is by most men overlooked." This was the honest evidence of his own careful introspection, yet in the same chapter of the *Principles* in which he stated it, James expressed his yearning for some higher power, "beyond the crude experience." "The perfect object of belief would be a God or 'Soul of the World,' " he thought, "so definitely conceived as to show us why our phenomenal experiences should be sent to us by Him in just the very way in which they come."

And though in the interest of the "would-be Science" of psychology, he was willing to postulate complete determinism and to write of the will as though it had no freedom, still James maintained that the "question of free-will is insoluble on strictly psychologic grounds"; and confessed: "I myself hold with the free-willest,—not because I fail to understand the fatalist theory clearly, or because I fail to understand its plausibility, but simply because, if free-will *were* true, it would be absurd to have the belief in it fatally forced on our acceptance. Considering the inner fitness of things, one would rather think that the very first act of a will endowed with freedom should be to sustain the belief

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

in the freedom itself. I accordingly believe in my freedom ; I do so with the best of scientific consciences."

Finally, though he could write of mind as an organism and a machine, he really thought of it as something quite different. " I cannot see," he declared in his *Talks to Teachers*, " how such a thing as our consciousness can possibly be *produced* by a nervous machinery." " I confess," he says in the *Principles*, " that to posit a soul influenced in some mysterious way by the brain-states and responding to them by conscious affections of its own, seems to me the line of least logical resistance." It may be, but it is also a line of thought that leads wide of the evidence of modern science and not so far from medieval mysticism.

A belief in a free, mysteriously affected soul is, of course, as essential to spiritualism and psychical research, as its complete antithesis, the acceptance of a bodily conditioned mind, is to natural science. James wrote of psychology not from one but from both points of view. In another psychologist such incongruity would be both devastating and unpardonable. But for him, strangely enough, it was not ; for James was by way of being the philosophical apostle of inconsistency. Inherent in his psychological dictum that every mind was of necessity isolated and individual, and that the universal and immediate conscious fact was " I think," lay his broader, pluralistic doctrine that " the truth is too great for any one actual mind, even though that mind to be dubbed ' the Absolute,' to know the whole of it. The facts and worths of life need many cognizers to take them in. There is no point of view absolutely public and universal. . . . The practical consequence of such a philosophy is

THE INTROSPECTION OF WILLIAM JAMES

the well-known democratic respect for the sacredness of individuality,—is, at any rate, the outward tolerance of whatever is not itself intolerant.”

Thus from his own standpoint James was justified in treating habit and instinct and perception and emotion as though the mind were an organism and a machine, and then handling the strange messages of the clairvoyants as though mind were a mysteriously affected soul. “For,” he steadfastly maintained, “in the strict and ultimate sense of the word existence, everything which can be thought of at all exists as *some* sort of object, whether mythical object, individual object, or object in outer space and for intelligence at large. Errors, fictions, tribal beliefs, are part of the whole great Universe which God has made, and He must have meant all these things to be in it, each in its respective place.”

There was a time in his youth, however, when James was not so sure that God had made this whole great Universe; when his “strongest moral and intellectual craving” was not for a belief in a “World Soul,” but for “some stable reality to lean upon.” It was then that the concrete facts of biology and the world of material science appealed to him so strongly, and the idea of a scientific, experimental psychology seemed so desirable. Yet how completely he ever succumbed to the postulates of natural science, even when they seemed most alluring, is extremely doubtful. At any rate, as early as 1873 young Henry James in Italy got a very jubilant letter from his father, telling him of his brother’s success at Harvard. The elder James first described how well William got on with his students in physiology,

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

but that was not the chief reason of his happiness. That was caused by his discovery that William had "given up the notion that all mental disorder requires to have a physical basis. This had become perfectly untrue to him. He saw that mind does act irrespectively of material coercion, and could be dealt with therefore at first hand, and this was health to his bones. It was a splendid declaration, and tho' I had known from unerring signs of the fact of the change, I never had been more delighted than by hearing of it so unreservedly from his own lips. He has been shaking off his respect for men of science as such, and is even more universal and impartial in his mental judgments than I have known him before."

There is no evidence that William James's respect for men of science increased after that year. And it was not long before his interest in psychology began to lag. Before he had finished his first book upon the science, he was sick to death of the whole subject. Cattell described the *Principles* as psychology's Declaration of Independence ; James, himself, called it " a loathsome, distended, tumefied, dropsical mass, testifying to nothing but two facts : first that there is no such thing as a science of psychology, and second that W. J. is an incapable."

How seriously James believed this second fact is extremely problematical, but of the first he had no doubt. As time went on its proof seemed stronger to him. In 1908, when he learned that Harvard was preparing to confer upon him an honorary degree, " he went about for days before commencement," so his son tells us, " in a half-serious state of dread lest, at the fatal

THE INTROSPECTION OF WILLIAM JAMES

moment, he should hear President Eliot's voice naming him 'Psychologist, psychical researcher, willer-to-believer, religious experiencer.' He could not say whether the impossible last epithet would be less to his taste than 'psychologist.' "

CHAPTER IV

THE EARLY HISTORY OF AMERICAN PSYCHOLOGY

WHEN William James was a few days old, Ralph Waldo Emerson smiled at him as he lay in his cradle at the Astor House in New York City and gave him his blessing. When Stanley Hall, at twenty-one, was preaching in a small country town, Henry Ward Beecher secured for him the thousand dollars which enabled him to study for three years in Germany.

A prophetic significance might be put upon these events, for the air of socialistic evangelism clung to Hall's psychology as pervasively as that of mystic philosophy did to James's. At any rate, a knowledge of those two acts of patronage helps to explain a fundamental contrast between America's psychological pioneers and their attitudes toward the science they fostered.

James grew up accepting the best in contemporary culture as his natural and unquestioned birthright. And the study of the human mind was to him just another of the things which an intellectual young gentleman of his day would naturally be interested in. It is true that he discovered scientific psychology for himself, and thereby introduced it to America; but so had he, in his earlier spiritual adventuring, come upon painting,

EARLY HISTORY OF AMERICAN PSYCHOLOGY

nature-study, chemistry and medicine. He felt under no more obligation to remain a psychologist for the rest of his life than he did an artist, a chemist, a naturalist, or a physician.

To Hall, becoming a professional psychologist represented a real achievement—as indeed it was. At the age when James was being tutored in France, Hall was still trudging down frozen country roads to draughty, dirty, one-room schools. Six years elapsed between his graduation from Williams and the day at Antioch College when he could first write professor of psychology after his name; and ten more before he had his first laboratory at Hopkins. In the meantime he had not only studied theology in New York and less godly subjects in Europe, but he had been obliged to support himself as tutor to a household of young, un-psychologically minded boys.

James, when he tired of psychology and lost interest in its development, turned from it with a sigh, not of regret but of relief. Hall identified himself for life with the subject whose mastering had meant so much to him. He found more fault with the progress of psychology than James had ever done, because he cared about it more intensely; but he never thought of abandoning it. When one approach to the study of mind failed him he was genuinely disappointed, but he straightway, and hopefully, turned to another. In his career from 1882, when he became professor of psychology and pedagogy at the Johns Hopkins, until his death in 1924 as Emeritus President of Clark, are reflected all of the conspicuous variations of American psychology.

James, who had stopped teaching psychology ten

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

years before he resigned from active instruction at Harvard, wrote the most famous work upon the subject. Hall, who held his psychological professorship during all the years he was President of Clark, never wrote a general textbook. His best known, bulky volumes, *Adolescence* and *Senescence*, are discursive and exhaustive treatises upon special topics, whose implications are as often educational, biological, and ethical, as they are psychological. But Hall was no literary recluse. He spoke with the bitterest scorn of those psychologists who lived "in academic isolation . . . in the solitude of the study." And he certainly managed to get about.

He founded and directed Clark University ; in reality he was Clark University. It was not until after his death, when his successor used his power for a spectacular raid upon the social liberalism to which Hall had been so cordial, that persons not connected with Clark learned how absolute was the authority of the man who had been its president. Yet during all the years that he was building up an institution devoted primarily to research with funds which were always disappointingly inadequate, Hall found ample time in which to roam the country. In 1923 he estimated that since he had come to Clark in 1889 he had given more than twenty-five hundred lectures outside its walls. His audiences had been assembled in universities, town halls, churches, and women's clubs, scattered from one end of the Continent to the other.

To his non-academic listeners Hall did not, of course, talk exclusively about the human mind. But most often he did, and even when he spoke upon diverse topics his approach was generally and broadly that of a

EARLY HISTORY OF AMERICAN PSYCHOLOGY

psychologist. While these thousands of discourses may have stimulated interest in the study of mental problems, they form only the smallest part of Hall's contribution to the history of psychology. Even in his laboratory work and in his writings he did not advance the general science very greatly, for his interest lay in special subjects, particularly in the developing minds of children. What psychology in America owes to Stanley Hall, however, is its formation from a personal absorption of a few far-scattered philosophers and teachers into a formidable, closely integrated, experimental discipline.

He made his first service toward thus organizing psychology at Baltimore in 1887 when he brought out the three thousand subscriptionless copies of the initial issue of the *American Journal of Psychology*. This was the first psychological periodical published in English and the first independent medium in which Americans could exhibit the work of their laboratories and the fruits of their psychological ratiocinations. Before this, all of their treatises, which were too technical or too tedious for the popular magazines, were thankfully bestowed on any professional journals that would accept them. They were to be found imbedded among deep metaphysical arguments, biological investigations, or theological debates. But with the first number of their own journal the psychologists began to feel free of these kindred doctrines and to give proof of their oft-repeated assertion that they were already men of science. The formation of the American Psychological Association, also under Hall's guidance, gave them, they believed, the same unified professional standing that was already attributed to investigators in more material fields.

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

Unlike most of the charter members of this society, Hall was not at all sure that the major puzzle of human mentality could be solved by a careful analysis of the normal, adult consciousness. Already he had shown that there was fruitful material to be garnered from other sources. In 1883, he published *A Study of the Contents of Children's Minds on Entering School in Boston*, and thereby inaugurated the movement for child study in America—a movement which has since flowed off into so many different channels : into pedagogical psychology, juvenile research, mental testing, and most recently to progressive education. In 1891, he began his second publication, the *Pedagogical Seminary*, to encourage this type of work. And it is as an authority not upon adult psychology but upon that of the child, especially of the adolescent, that Stanley Hall's fame rests.

Even before he began his experiments with youngsters, Hall had become interested in another deviation from general psychology. When he was a theological student in New York, he had often held noon prayer-meetings in the Fulton Street Mission. From the data he collected there he arrived at some conclusions which he first made public in a series of lectures given at Harvard and which were met with incredulity and ridicule by many pious souls. His theory, which seemed so shocking in 1881, was that "the age of religion and that of sexual maturity coincide," and that there is generally "an intimate relation" between religion and erotism. In 1904 he undertook his third publishing venture, *The Journal of Religious Psychology*.

Conventional research of the laboratory, pioneering

EARLY HISTORY OF AMERICAN PSYCHOLOGY

work in child study and religious psychology, would seem to be enough for one man who was president of his university, as well as head of his department ; but not for Stanley Hall. While he was a professor at Hopkins, he was also superintendent of the Bayside Hospital for the Insane. He passed upon the eligibility of the inmates for discharge and, as long as he was in Baltimore, held weekly clinics there. When he moved to Worcester he still pursued his interest in abnormal psychology through similar clinics at the Massachusetts State Hospital. And in 1909, when he celebrated the second decennium of the founding of Clark, he had the pleasure of introducing not only to the psychologists, but to many of the psychiatrists of America, Dr. Sigmund Freud of Vienna, Dr. H. Ferenczi of Prague, Dr. C. G. Jung of Zurich, and Dr. Ernest Jones of Toronto.

From his *Confessions* it seems that his championing of psychoanalysis gave Hall his greatest professional satisfaction. But having at last found a system of psychology which he could accept with few reservations did not cause him to ignore the progress the science might be making in other directions. As soon as mental tests became popular he allowed one of his instructors to devote his whole time to measuring the minds of the schoolchildren of Worcester. Only a few years before his death, Hall founded his fourth magazine, *The Journal of Applied Psychology*.

Despite the far-reaching consequences of these other activities of his, it is as the "Socrates and midwife" of the American Psychological Association, as Cattell called him, that Hall's professional colleagues accord him the most honour. Though the laboratory psycho-

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

logists often disparage the exactness of Hall's own experimental work, they realize that it was due to him more than to anyone else that their combined researches came to attain the status of an independent science.

Of the twenty-six men who answered Hall's call to establish America's first psychological society, two, William Noyes and Edward Cowles, were alienists. The rest were all college professors. Five of them, William Lowe Bryan, Edmund C. Sanford, W. H. Burnham, Benjamin Gilman, and W. O. Krohn, were Hall's associates at Clark. But twelve other institutions were represented ; Columbia by Cattell ; Yale by George Trumbull Ladd and E. W. Scripture ; Harvard by Josiah Royce and Hubert Nichols as well as James. J. Mark Baldwin came down from Toronto, and Frank Angell all the way from Stanford. From the University of Wisconsin there was Joseph Jastrow, and from Michigan John Dewey.

One cannot gauge the dominant interest of these men at that time by tracing the later development of those names which are now best known. Royce, although he was once the Association's president and even wrote a textbook upon the subject, was never a scientific psychologist at heart, but through the circumstance of his close association with James. Cowles, despite the fact that he has since gained renown as the conductor of Dr. Norman Guthrie's " Body and Soul Clinic " at Saint Mark's on the Bouwerie, has had little to do with the professional growth of psychology. And in 1892, Jastrow and Dewey were still youngsters in the science, psychologists of the second generation, newly graduated from Hall's laboratory at Hopkins.

EARLY HISTORY OF AMERICAN PSYCHOLOGY

From the number of Hall's pupils present at the Association's birth it might appear to be an extension of his seminars. But in reality, in the beginning, the society was dominated by a figure far away in Leipzig. Hall and Ladd and James and Cattell were its first presidents, but Wundt's ideals guided its work. Not only had Hall at Hopkins and during his early years at Clark taught psychology exactly as it was set forth in the *Physiologische Psychologie*, but there were in the American association, besides himself and James, eight other professors who had learned the science in Germany. Cattell had been Wundt's first assistant. And, as though to make this Teutonic influence more complete, the assembly was able to elect at its very first meeting two other graduates of the Leipzig laboratory: Hugo Münsterberg, who was that year coming to Harvard, and Edward Bradford Titchener, who was to conduct Cornell's new laboratory.

Titchener was really not a German, although he was consistently thought to be one. He was an Englishman who never became naturalized during the thirty-four years he lived in America. But he was the strictest Wundtian of them all. He lacked, however, Münsterberg's zeal for translating the technical theories of their master into simple words and terms comprehensible to the layman. Titchener, indeed, had small regard for the layman. He certainly had no desire to convert the outsider to psychology; he seemed positively determined to keep him out of psychology unless he would agree to become a research student. Even the sophomores to whom Titchener lectured for so many years at Cornell were not to him restless boys and girls of eighteen

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

or nineteen years. They were potential investigators in his graduate laboratory. He always addressed them formally, arrayed in his academic gown, as though they had already made up their minds to become such. And in the books he wrote for them he seemed to have assumed that they were already there. So if one would get an intelligible idea of the early Wundtian psychology of America, one must turn from Titchener to Münsterberg.

Münsterberg was amazed when he read the contributions to the Pedagogical Seminary. He was shocked that the students of Hall should dignify their careful little studies of children's playthings, pastimes, and dirty words, by calling them psychology.

"Now let us try to repeat such inquiries with adult men," Münsterberg suggested; "let us find out what preferences they have in cigarette-holders and meerschäum pipes, or how often they refer to the eyes in flirting, or what their dispo[n]able material of nicknames and abusive words may be. The results will not be much less instructive than those from the study of children, but surely you would not call them psychology."

Now, the first strange thing about this quotation is that to-day just such questions, about a man's tastes in cigarettes, about the position in which he prefers to sleep, and about the rate at which a chorus girl's heart beats, are called psychology. Moreover, they form the type of psychology with which Münsterberg's own name is most intimately associated. And finally, there is ample justification for connecting that name with just such practical inquiries, for Münsterberg was America's first applied psychologist. He was the first to study

EARLY HISTORY OF AMERICAN PSYCHOLOGY

the mental processes of the trial witness, the industrial worker, and other such persons not often discovered in academic laboratories. Yet Münsterberg, himself, drew a sharp distinction, theoretically at any rate, between the use of psychological material in everyday life and the science of psychology itself. He was bitterly opposed to the belief that "every gathering or interpretation or statistics of mental facts," constitutes psychology.

"Certainly the good appetite of psychology has sometimes become voracity in our days," he observed as early as 1899, "and she has begun to devour all mental sciences, history, and social life, ethics and logic, and finally, alas! metaphysics; but that is not a development, it is a disease and a misfortune. And when the necessary conflict between such high-handed psychology and the deep-rooted demands of the true life begins, such uncritical science must burst asunder. Psychology would learn too late that an empirical science can be really free and powerful only if it recognize and respect its limits, about which philosophy alone decides. The limits of psychology are easily understood. Psychology considers the mental life as an object which must be analysed and explained, analysed into elements and explained by laws. The psychologist, therefore, silently accepts the presupposition that the mental life is such an object and that this object is a combination of elements controlled in their connection by causal laws. . . . Psychology thus presupposes for its purposes a most complicated transformation of the reality, and any attitude toward the mental life which does not need or choose this special transformation may be something else, but it is not psychology. Practical life and history,

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

mental science and poetry, logic and ethics, religion and philosophy, all deal with mental life, but never with psychology as such. Not the material but the special standpoint characterizes the psychologist."

Psychology to a good Wundtian was not (or, rather is not, for American colleges still secrete an astonishingly large number of good Wundtians) an interpretation of human nature ; nor was it a study of human life. It was not even an exposition of the human mind as that mind is ordinarily conceived. Wundtian psychology is, in Münsterberg's words, "a special abstract construction." It is one of the most immaculate of the pure sciences, as unsullied by contact with actual living as the most abstract mathematics.

The subject-matter with which this impracticable, objective psychology works is consciousness, and the tool which it uses to probe into its secrets is introspection or self-observation. Now, James, too, dealt with consciousness, and he, also, studied it by means of introspection. When James introspected upon consciousness he found it to be a turbulent, purposive, cognitive, intensely personal experience. Münsterberg admits that in everyday life the human mind appears to have such qualities ; but he denies their existence under the steady gaze of the laboratory experimenter.

"From the standpoint of psychology," he says, "—I mean a consistent psychology, not a psychology that lives by all kinds of compromises with philosophy and ethics,—from the standpoint of psychology the consciousness itself is in no way a personality ; it is only an abstraction from the totality of conscious facts—an abstraction just as the conception of nature is

EARLY HISTORY OF AMERICAN PSYCHOLOGY

abstracted from the natural physical objects. Consciousness does not do anything ; consciousness is only the empty place for the manifoldness of psychical facts ; it is the mere presupposition making possible the existence of the content of consciousness, but every thought and feeling and volition must be itself such a content of consciousness."

If this abstract psychology can furnish no information about the everyday mind of man, what can it do ? It can observe the existential contents of its artificially transformed consciousness ; but even then the scope of introspection is definitely limited. " Ideas and their elements alone," Münsterberg was sure, " can find a logically satisfactory place in psychology." These elements are, of course, sensations, the same sensory processes that the German physiologists discovered long ago, but whose existence in adult minds James so strenuously denied. It is Münsterberg's belief that every single idea we may have, however complicated it might seem, can be experimentally analysed into these same simple, meaningless, palpable elements. Sensations, then, become the foundation stones of the entire structure of human mentality.

Still, granted that ideas might be so analysed, such cognitive objects, after all, form such a small fraction of the psychic life of man. His desires and appetites, his actions and emotions, make up the greater part of his consciousness. These processes, and Münsterberg admits it, are not ideas. He admits it, but he suspects that the " non-ideational mental states are also made up of sensations. An emotion or volition is never an idea, but their elements may be the same, just as the organic

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

and inorganic substances in nature are composed of the same chemical elements. If an emotion or judgment or volition were a complex of sensations, that is, a complex of possible elements of idea, then of course we could describe all psychical facts with the same logical completeness and safety." The ultimate goal of psychology, he concludes, "is therefore to replace the real emotions, judgments, volitions, and so on, by complexes of sensations."

It was this atomistic, impersonal, artificial, analytical conception of the human mind which dominated American psychology in the beginning. But it did not rule it for long, nor ever completely. James's *Principles* had been published two years before the American Psychological Association was formed. And James, quite naturally, succeeded Ladd as the society's third president. All the experimentalists of the country might proclaim the phenomenal wonders of sensations ; James continued to speak of them as "twaddle." His voice was low and mannerly, but it was heard above all the rest.

When James wearied of psychology and turned from it to his more congenial pragmatic philosophy, John Dewey and James Rowland Angell were ready to take his place. Far from accepting Münsterberg's dictum that consciousness is in no way a personality, Dewey defined psychology as the "Science of the Facts or the Phenomena of Self," and Angell declared "our sense of the identity and continuity of our own personality" to be the only stable phenomenon in the whole "on-flowing of consciousness." And in marked contrast to

EARLY HISTORY OF AMERICAN PSYCHOLOGY

Münsterberg's belief that consciousness "does not do anything," Angell asserted that the mind was "an engine for accomplishing the most remarkable adjustments of the organism to its life conditions." And Dewey remarked that mind was nothing but its modes of activity: "The self is only as it acts and reacts."

In effect, Dewey and Angell pledged allegiance not to Wilhelm Wundt but to William James. It was because these three Americans as well as Ladd and Judd, staunchly upheld Angell's dictum that "it is mental activity, rather than mental structure, which has immediate significance for thought and conduct," that the psychology which they taught came to be known as functionalism, in opposition to the structuralism of the stricter Wundtians.

This schism among the earlier psychologists was not so obvious or so clear-cut as the contrasting views of its leaders might lead one to think. Compared to the clamour of the last two decades, since behaviourism and psychoanalysis have grown so articulate, the first years of American psychology seem almost idyllically peaceful. The functionalists and the structuralists could never agree as to the meaning of mind and consciousness, yet neither side doubted the existence or importance of them. Moreover, both groups had two heritages in common: a respect for experimental results and a passion for the terminology of empirical philosophy. In the early days, therefore, it was quite possible to read a score of treatises by as many different authorities without once doubting that they all expounded the same subject. The very words, which stood out in

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

italics or great black letters throughout the text, were reassuring : association, will, habit, perception, attention, memory, emotion, thought, feeling, imagination, sensation, instinct. They were all familiar, comfortable words and had become eminently respectable through three centuries of intimate association with the best in British metaphysics. Though the functionalists and structuralists never agreed as to their exact meaning, all the bulky volumes which employed them looked just the same. They all contained the same trick pictures of optical illusions, the same fanciful analyses of complex thoughts, the same interminable lists of instincts. As textbook after textbook poured from the presses in the '90's, James began to wonder if there really was any greater difference among them than "a fondness on the authors' parts for certain phrases."

Cattell has never written any of these general manuals, and so his deflection from conventional introspection is the more conspicuous. In his own laboratories, first at the University of Pennsylvania, later at Columbia, and most recently with the Psychological Corporation, Cattell has continued to experiment upon sensation, reaction, memory, and imagination, as he learned to do fifty years ago at Leipzig. But his interest in these problems has been quite different from that of those other pupils of Wundt who still follow their master's precepts more closely. They are still endeavouring to discover the typical mental processes ; Cattell, like the English eugenicists, is trying to find how one man's processes differ from another and to what use they can best be put. He has modified the more complex experi-

EARLY HISTORY OF AMERICAN PSYCHOLOGY

ments of the laboratory to meet this need. In 1890, when he first described his psychological examinations of individual differences, he referred to them as "mental tests," and thus one of America's most popular terms made its literary debut.

Mental tests made their first public appearance three years later. And very public it was too, for Joseph Jastrow sat in a small booth along the Midway of the World Fair in Chicago and offered to measure, free of charge, the minds of all persons who would venture in. The tests which confounded almost two million recruits during the war, and still harass even more schoolchildren to-day, are not, however, strict lineal descendants of those which Cattell invented and Jastrow demonstrated. These more popular measurements are the offspring of an idea of the French psychologist, Alfred Binet, and the mathematical wizardry of Professor Lewis Terman.

Long before mental tests became the fad of pedagogues, and mental testers the pride of the Army training camps, the interest in individual differences had led Hugo Münsterberg to propose still another psychological departure, or even a new kind of psychology. Psychotechnics, he called it.

Münsterberg, who had come from Germany so filled with the Wundtian ambition to make psychology an impersonal and disinterested science, was soon enthralled by the industrialism of America. He, who had been so pained that child study should be considered psychology, discovered, before long, that this austere science "should become helpful to the community wherever mental life is involved in its affairs," and

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

should do its bit toward the forwarding " of education and of religion, of politics and of law, of commerce and of industry, of art and of scholarship, of family life and of practical intercourse, of public movements and of social reform." The same Münsterberg, who defined psychology as an artificial transformation of experience whose goal was the replacing of thoughts and feelings by complexes of sensations, decided, once he was firmly established in a practical land, the most " natural task " of this abstract, impersonal science to be " rendering useful service to practical life."

This should not be interpreted as a complete change of heart, or of psychological convictions, on Münsterberg's part ; at least he did not consider it so. He still tolerantly maintained that those scientists who wanted to go on discovering facts without a thought to their usefulness should be allowed to continue in their disinterested, and uninteresting, drudgery. To require a scientist to produce practical results, when he would rather produce impractical ones, was, Münsterberg still held, " cramping." But he also remarked : " Our view is certainly no less narrow, if we take the opposite stand and are indifferent to the practical usefulness of our scientific results."

He looked around at the other sciences, at the very sciences which psychology was endeavouring to imitate, and he found that they had come to terms with industry without thereby losing prestige. And he saw no reason why psychology could not do the same. " The pure search for truth and knowledge was not lowered," he pointed out, " when the electrical waves were harnessed for wireless telegraphy, or the Röntgen rays were forced

EARLY HISTORY OF AMERICAN PSYCHOLOGY

into the service of surgery. The knowledge of nature and the mastery of nature have always belonged together."

So, taking his cue from the engineer who translates the facts of physics into practicable and saleable form, Münsterberg, in 1913, in a book called *Psychology and Industrial Efficiency*, and appropriately dedicated to Harold McCormick, offered the "new science of psychotechnics" to the modern world. Its purpose, so he stated, was "to intermediate between the modern laboratory psychology and the problems of economics: the psychological experiment is systematically to be placed at the service of commerce and industry."

His idea was something like this: If industrialists let technicians of the physical science decide upon the materials that go into the building of ships and machinery, why should they not employ technicians of mental science to select the workers for the ships and machines?

So sure was Münsterberg that the psychologist was the proper person to be entrusted with "scientific vocational guidance," as he was the first to describe it, that he proposed that Congress establish "a government bureau of applied psychology with especial reference to the psychology of commerce and industry, similar to the model agricultural stations all over the land under the Department of Agriculture." As Congress showed small enthusiasm toward his plan, Münsterberg began to give demonstrations of it in his own laboratory. If the more academic of his colleagues looked askance at this alliance with commercialism, he was undisturbed. They may have thought he was bartering his scientific

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

conscience, but he found he could put a good price upon his ideas.

There was, for instance, a telephone company which was having trouble in selecting the proper girls for its switchboards. The young women seemed bright enough when they applied for their positions, and they apparently responded quickly to their period of training, but when they actually went on the job they said "excuse me," about as often as they did "number." So the company sought Münsterberg's aid in constructing a test which would separate the quick, right-number girls from the slow, wrong-number ones even before they were employed. The Harvard laboratory set busily to work, analysing not abstract ideas and volitional impulses, but the "switchboard function."

Then an executive of a steamship line asked Münsterberg if he could devise a psychological test which would detect nautical officers who were liable to lose their heads in disasters, so that the company might be rid of them before their boats sank beneath their quaking limbs. Thus Münsterberg constructed a series of experiments which could measure "the mental process of decision in a complicated situation." He performed a similar service for the American Association for Labour Legislation by designing a test which would eliminate motor-men who were predisposed toward more than a reasonable number of street-car accidents.

In this manner applied psychology was launched upon its ambitious, but never quite successful career, because another former disciple of Wundt had changed his scientific mind.

EARLY HISTORY OF AMERICAN PSYCHOLOGY

Already, however, the most spectacular, and most significant, revolt from psychological orthodoxy was well upon its iconoclastic way. It was instigated by none other than Stanley Hall, who by 1904 had decided that he had heard more than enough of the patter of consciousness. He then blazed away at the introspective psychologists, both functionalists and structuralists. He said that all of them lived in "academic isolation from the throbbing life of the great world," that they had "little experience in willing and far less with the floods of feeling that have irrigated the life of man in the past," and, finally, that through their preoccupation with consciousness and their "lust for the theories of knowledge," they had developed "a veritable and multiform psychosis," and were doomed to be remembered only as the perpetrators of "a new type of scholasticism."

Indeed, Hall had become convinced that the adult human consciousness, which the introspective psychologists probed so trustingly, was a far from important manifestation of the mind of man. He described it as a "late, partial, and perhaps essentially abnormal and remedial outcrop of the great underlying life of man-soul." He called it an "upstart novelty," and refused any longer to "believe that consciousness is even quite the efflorescence of the human plant." He went so far as to suspect it to "be a wart raised by the sting of sin."

From which epithets one begins to suspect that Professor Hall was fast losing his faith in consciousness and his respect for the men who made its analysis their prime purpose in life. And his distrust grew, and with it his desire for a more nutritious theory of the human soul. Before long he found one. In 1909, he introduced its

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

creator, Dr. Sigmund Freud, to his first American audience. After Freud had made his first address before the professors and physicians assembled at Clark to hear him, the homogeneity as well as the innocent simplicity of psychology in America had vanished.

CHAPTER V

THE CONSERVATISM OF E. B. TITCHENER AND THE LIBERALISM OF STANLEY HALL

AS gradually, from different motives and to varying extents, the influential psychologists of America turned from or modified the strict introspective doctrines they had learned at first or second hand from Wilhelm Wundt, one among them kept his scientific gaze steadily focused upon Leipzig. That was Edward Bradford Titchener. And during the thirty-four years that he taught at Cornell he never shifted his viewpoint. The more fault his colleagues in other universities found with the Wundtian precepts, the more staunchly he upheld them. The more earnestly they sought to bring psychology into contact with practical living, the more adamant was he that it must remain disinterested and aloof. In time the very pattern of his personal life became symbolic of his attitude toward his science.

No psychologist who has ever lived in America has had such an enviable international reputation as Titchener—and few who have written so much as a textbook have had so little influence on the thought of the country. Titchener's works have been translated into more foreign languages than those of any other psycho-

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

logist. His textbook is the only official psychological text of France—the only one the French have ever had. It was on his recommendation and according to his requirements that an independent school of experimental psychology was built in Moscow. Yet the American Psychological Association did not honour him with its high offices. And to-day, though he has been dead less than five years, his theories are remembered only by a select academic group over which during his lifetime his influence was complete and very personal. This curious situation really arose from Titchener's determination to keep psychology the disinterested and impersonal science he thought it should be, despite all the heresies that year after year assailed it.

The first book that Titchener wrote he dedicated to Thomas Henry Huxley, whom he had known during his student days at Oxford. He described his former teacher as "the master in Science—the brilliant investigator, the fearless critic, the lucid expositor." Yet even to its master Titchener would not concede a lucid exposition of the attitude of science. Huxley had defined science quite simply as "perfected common sense." Titchener proclaimed unhesitatingly, "common sense is not science." Why? Because common sense is the dubious wisdom of everyday life and "ordinary living is not scientific."

Titchener was appalled some sixteen years ago that H. G. Wells should complain that no sick soul could find relief in a modern textbook of psychology. "Of course not!" he retorted in his own next textbook. "Psychology is the science of mind, not the source of mental comfort or improvement." And science, he explained,

E. B. TITCHENER AND STANLEY HALL

“deals, not with values, but with facts. There is no good or bad, sick or well, useful or useless in science.” These values comprise the business of everyday living where each man is concerned with his own personal interest. But, says Titchener: “That personal interest is irrelevant to science. It is as irrelevant to psychology as to chemistry. The psychologist has a great deal to do with his own mind; but that is because his own mind is the most easily accessible part of his subject-matter; it is not in the least because the mind happens to be his own. He does not care as psychologist—though he may care very much as human being—whether this mind is superior and talented and broad and cultivated or is the reverse of all these things; for in the first place these adjectives are all adjectives of value, and he is in search of facts; and secondly they are words of personal or individual appraisement, and he is not concerned to praise or blame himself.”

So positive was Titchener that value or significance or use had no place in science, that he would not admit to psychology that phase of mental life which to most psychologists is its essence: its meaning. If you were asked to describe the word **GAME** which you see before you, you might give any number of definitions for it. But if you were the kind of psychologist whom Titchener had trained in his laboratory you would merely report that you saw black figures against a white background. The meaning of this pattern in black and white would not concern you, because you would know that it is a part of that superstitious world of values upon which the science of psychology must resolutely turn its back. Titchener would have taught you “that mental pro-

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

cesses do not intrinsically mean, that meaning is not a constituent part of their nature."

After all, it is men who ordinarily live in the world of individual and personal values who must do the scientific introspecting upon which the growth of Titchenerian psychology depends. Personal interest may be as irrelevant to psychology as to chemistry, yet the physical universe can very well exist, as all but a tiny part of it does, with no man to observe it. Obviously, though, there could be no mental life without human minds to experience it. Psychology depends then for its very existence upon the fact that the earth is populated by men. So Titchener informed his students : "The first thing to get clear about is the nature of the man left in the world, the man whose presence is necessary for psychology and unnecessary for physics. Since we are talking science, this man will be man as science views him, and not the man of common sense ; he will be, that is, the organism known to biology as *homo sapiens*, and not the self-centred person whom we meet in the everyday world of values."

Because this *homo sapiens* has of necessity lived in this everyday world of values for a great many years before he decides to dedicate himself to the meaningless observation of scientific psychology, he will, Titchener recognized, "*be badly handicapped by common sense.*" His corrective for this unfortunate but unavoidable handicap was "technical training, first and foremost." The psychological novitiate must be taught to introspect disinterestedly and impersonally, and he must "keep practising" his technique "until it becomes instinctive."

Does all this sound fantastic ? Is it hard to believe

that anyone could expect either himself or another human being to become so completely inhuman even for a moment, let alone for the rest of his life? Does it seem that it must be an intellectual pose? There are to-day scattered throughout the United States, but concentrated for the most part in its highest colleges and universities, fifty-six men and women who are living proof that Titchener honestly believed a human being could be taught to regard his mind inhumanly, to see it impersonally, to think of it as a useless, meaningless, valueless mass of simple mental processes.

All of these fifty-six men and women have the privilege of writing after their names Ph.D., Cornell; they were all once Titchener pupils. In his laboratory they were trained to scientific introspection. And during the two or three or five or twenty years that they remained there he regarded them as the organism known to biology as *homo sapiens*, and not the self-centred persons we meet in everyday life. He had no cause to think of them as individual men and women. They were the necessary tool of his craft, the finely adjusted microscope through which he studied the delicate tissues of the human mind.

Titchener's ideas about the technical training he held to be the essential ingredient of a psychologist were positive and dogmatic. With his own graduate students, whether they came to him as immature children of nineteen or veteran pedagogues of fifty-nine, he enforced them strictly. He appreciated that because "psychology has always been exposed to the infection of common sense," there were other systems of psychology whose postulates differed radically from his own. Should a student, then, try to learn the principles of these

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

various other systems before deciding which one to adopt ? Assuredly not. "The best way to begin your study is to *master one system thoroughly !*", even if it happens to be false, for, so Titchener says, "it is better to be wrong than to be muddled."

Often one system in its entirety was beyond the individual compass of a single student, and so Titchener counselled him that, having got clear upon general principles, "to resign himself to work intensively upon some special aspect of the subject-matter." That is exactly what his own students did ; only the special aspect of psychology upon which they resigned themselves to work was not of their own choosing but of his.

For many years before he died Titchener never went into his laboratory, but every line of research that came out of it, no matter whose name might be signed to it, was accepted by all other psychologists as his own. And it was. He had no need to do any experimenting himself, for he had trained his assistants to do it for him ; but he directed from his study every piece of apparatus which they constructed and every word of instruction that they gave to their introspectively trained observers. What these students knew of their subject-matter were the bits of research which they themselves performed or which others performed upon them. It happened many a time that a mature man spent two years at Cornell and left it with his Ph.D., and that almost his whole knowledge of psychology would be encompassed in the title of his thesis, which more often than not bore some such label as, *The Effect of Varied Instructions on the Perception of Distances in Terms of Arm-Movement*, or *The Effect of Varied Instructions on the Perception of Lifted Weights*.

E. B. TITCHENER AND STANLEY HALL

Sometimes, toward the end of June when he was dreadfully tired of computing averages, this mature man might feel disappointed, or even a little bitter; but he did not protest. He had made a bargain and it had been kept. In return for his long pages of dry statistics he had a diploma and Titchener had some more data upon the subject of perception.

This led to a curious situation. Cornell laboratory turned out a prodigious amount of research; substantial research upon the elementary problems of sensation, perception, attention, imagination, and thought—but it turned out no independent psychologists. It produced its scores of Ph.D.s, of course, and many of them through Titchener's recommendation secured high positions in the academic world. But no matter how long they might be professors at Clark or Vassar or Harvard, all the while that they taught structural psychology, they remained Titchener's pupils. And the fact of his tutelage overshadows their own individual achievements even to-day; as the table of contents of *The Psychologies of 1930* so aptly illustrates.

In that symposium every contributor is classified according to the theories he sets forth. We find Harvey Carr listed under Functional Psychology, Knight Dunlap under Reaction Psychology, and Alfred Adler under Analytical Psychology. But are the views of Madison Bentley, Margaret Washburn, J. P. Nafe, and Edwin Boring classified simply as Structural Psychology? They are not. Above them is written: "Psychological Theories of Those Whose Training Background was the Structuralism of E. B. Titchener."

Titchener's direct, personal influence upon psycho-

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

logical research extended even beyond his own laboratory and the laboratories manned by his students. As soon as he saw the American Psychological Association veering sharply toward functionalism, mental testing, and psychotechnics, he withdrew his support and started a rival society of his own. He then invited those members of the original organization whose attitude and seriousness he approved to meet with him and discuss their experimental problems. These conferences grew into annual meetings. The group had no official name, no elections, and no formal papers. It needed none. It had Titchener, and Titchener had no faith in democratic institutions. The purpose of the conferences was to get work done and he personally saw to it that it was done. The "world of everyday values" was ignored as completely as were the lady psychologists who were admitted to the meetings only for the purpose of serving food and drink to the men.

The men told Titchener what they had been doing in way of research during the preceding year. He criticized their experiments and told them what to do the next year. And they did it. This autocratic procedure enabled the *American Journal of Psychology* under Titchener's editorship to continue its output of carefully planned, well verified, minute experiments, which were favourably received in Germany and for which Titchener got his due share of credit. But it made no provision for apostolic succession. Thus the death of Titchener, in 1927, left the men in his group without a leader.

It would be outrageously fantastic to compare the forthright, keen-witted Titchener to Mrs. Mary Baker

Eddy. Two persons could scarcely be more opposed, both in personal traits and in the doctrines they proclaimed. Titchener was as certain that mind was absolutely dependent upon the material body as Mother Eddy was profuse in her denials of that body. It might then seem somewhat strange to liken the structural psychologists upon whom Titchener imposed his honest, clearly conceived convictions to the Church of Christ Scientist. Yet their similarity is striking. Both groups are drawn together by the adoration of a dominant personality. They may bicker among themselves but to the public they show a completely concerted front. And the structural psychologists have recently taken upon themselves the task of censoring criticism in a way that is strikingly like the method by which the Christian Science Publicity Committee answers all attacks upon its church. Their invariable reply is that the critic does not understand experimental psychology, for no one could understand experimental psychology unless he had learned its meaning in sterilized Titchenerian laboratories.

Because of the intensity of these structuralists, who prefer to be called "the experimentalists," their number, and the power they still wield in the universities, American psychology presents a bizarre picture. Outside the colleges it is known as the broad, variegated discipline it has already become. Within many academic institutions it still means the atomistic science in which form it began its American life. And between "the experimentalists" and any other group of psychologists there is no compromise. Behaviourism, applied psychology, mental tests, and all the psychoanalytical theories are concerned with that unscientific realm of

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

common sense and are therefore not "experimental psychology."

When these structuralists are criticized, when they are described as artificial, when it is pointed out to them that in all the years of their existence they have discovered no data except some facts about sensation which the physiologists could have unearthed just as easily and more quickly, they remain undisturbed. They have a ready and irrefutable answer. It has been stated by Dr. Edwin G. Boring of Harvard, who since Titchener's death has become experimental psychology's Orwell Bradley Towne.

Professor Boring believes "that the application of the experimental method to the problem of mind is the great outstanding event in the history of the study of mind, an event to which no other is comparable. He believes that the person who doubts that the results have justified the importance that has been attached to the invention of experimental psychology must be either ignorant or influenced by a disappointment that the progress of experimental psychology has not aided in the solution of his own particular problems."

And there he has us. For how could a science, which deliberately turns it back upon the world of common sense and the values of everyday life, possibly be expected to aid a poor human being to an understanding of his own puny mind ? The person must be not only ignorant, but incredibly stupid to expect personal enlightenment from "experimental psychology."

When Stanley Hall wrote his *Confessions* in 1923 he did not fail to voice his despair over these experimental introspectionists who, he noted, had already developed

“an organization, if not a kind of cult of their own, and just now seem in danger of becoming a sect apart and to themselves.” But twenty years earlier he was equally exercised over those other introspectionists, like James, who spent little time in the laboratory, but lived “in habitual communication with the second-hand knowledge found in books,” and were “peculiarly prone to lapse into some savage type of thought like spiritism, telepathy or transmundane irruption.” It was these “sedentary and mentally pampered thinkers,” Hall accused them, “who have given us a bankrupt psychology without a soul.”

Stanley Hall, as it may be surmised, was incurably interested in the human soul. When Beecher asked him if he were not afraid his studies in Germany might make him less religious, Hall replied unhesitatingly that they would make him more so. And he never went back on his assertion. As he became more and more uncertain about the human soul's possible future, he became that much more curious about its probable past. But he continued to describe it by the long tortured sentences and the large obscure words which ordinarily ornament the Sunday discourses of ministers.

“The proleptic and sometimes almost cataleptic interest in the soul's future,” Hall believed, gets us nowhere, “for we know the soul best when we can write its history in the world.” “The soul,” as he envisaged it, “is as much, but no more an organized unity than the body ; it reflects the growth not of the brain alone, but of every part and organ ; has powers in every stage of nascency and decadence like it ; is now hindered and now forwarded by every advance and regress of every

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

organ, as organs themselves are, sometimes directly, sometimes indirectly, always according to the fullness or scantiness of the tides of life."

If Wundt's students at Leipzig boasted that they had taken the soul out of psychology, Hall could certainly have bragged that he quickly put it in again. He described the human brain not only as the most complex of organically evolved tissues, but as "the mouthpiece of the absolute in the world, through which all revelations have and must come." He therefore believed that the great spiritual need of the world was a "genetic psychology," a theory of the evolution not of the mechanical body but of the "dynamic psyche." Such a study, he felt sure, would transcend the mere science of psychology and render "instant aid in education, science, and religion."

Although he admitted that his theories about the soul's ever-higher development in the history of man might "not satisfy all the demands of all the watchdogs of Zion, who often demand the whole or nothing," he maintained that his hypotheses were "very much farther from blank negations and scepticism. They tend to win back a world growing indifferent to it, to religion, and to give poise, peace, and sanity, and restore its lost unity to the soul. . . . This takes us at once far beyond the age of Tyndall and Huxley on the one hand, and of religious dogmatists on the other, makes religionists who speak of 'science falsely so called' and scientists who sneer at religion, relics of a vanished stage of culture, and above all heartens youth, whose mental integrity has suffered most."

Here again, as in the case of James, we find a psycho-

logist biting hungrily at the theory of evolution, only to choke upon Huxley's mechanistic interpretation of it. James, however, despite all his psychical beliefs, could never find any evidence of spirituality among the conscious contents of his own mind. Hall, though his conception of the human soul is vastly different from James's, thought he knew why introspection could never detect its existence. "The experience of the adult consciousness," he asserted, "is at best but a provincial oracle of the soul which is incalculably older, vaster, or more organized than it. . . . Our consciousness is but a single stage and one type of mind: a late, partial, and perhaps essentially abnormal and remedial outcrop of the great underlying life of man-soul. The animal, the savage and child-soul can never be studied by introspection. Moreover with missing links and extinct ethnic types, much, perhaps most, soul life has been hopelessly lost. Thus, the adult who seeks self-knowledge by introspection is banausic, and his system is at best but one human document or return to the external but ever unanswered question what man can know, what he should do, and how he most truly feels."

So Hall proposed that psychologists stop studying their own "cultured intellects" and "deal with the arch-types of mind, with zones or strata which precede conscious"; for, he asserted, "by looking inward we see for the most part only the topmost twigs of the buried tree of mind." He was sure that "There are powers in the soul that slumber like the sleepers in myth, partially aroused, it may be, in great personal or social crises, but sometime to be awakened to dominance."

It was for these hidden psychic powers that Hall

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

thought psychologists should delve. "We must collect states of mind, sentiments, phenomena long since lapsed," he counselled them, "psychic facts that appear but once in a lifetime, and that in only few and rare individuals, impulses that, it may be, never anywhere arise above the threshold, but manifest themselves only in automatisms, acts, behaviour, things neglected, trivial and incidental, such as Darwin says are often most vital. We must go to school to the folk-soul, learn of criminals and defectives, animals. . . ."

Yet even with this advice Hall was not at all confident that academic psychologists could ever tap the true vein of psychic life. He felt that "in our day and civilization, the hot life of feeling is remote and decadent. Culture represses and intellect saps the root." And of all the sufferers from spiritual decay, he considered college professors, isolated and sheltered by their academic positions, the most seriously affected. "From such," Hall concluded, "the whole physical universe and the world of throbbing life and action is pretty sure to fade and the inner world of thought become all in all." Small insight into human nature could be expected from such emasculated souls. But Hall was not inherently a pessimist and he soon found a brighter note.

"Happily for our craft," he cried, "the child and youth appear at the truly psychological moment, freighted, as they are, body and soul, with reminiscences of what we were so fast losing. They are abandoned to joy, grief, passion, fear, and rage. They are bashful, show off, weep, laugh, desire, are curious, eager, regret, and swell with passion, not knowing that these last are especially outlawed by our guild. Their hearts are yet

E. B. TITCHENER AND STANLEY HALL

young, fresh, and in the golden age. Despite our lessening fecundity, our over-schooling, 'city-fication,' spoiling, the affectations we instil and the repressions we practise, they are still the hope of the world especially of us, who would know more of the soul of man and would penetrate to its deeper strata and study its origin."

Thus psychology, as Stanley Hall would have it, "prefers a long programme of work yet to be done to a sense of complacency in any present finalities. It appeals to the really young, and would appreciate and meet adolescent needs rather than deal in sad insights which belong only to senescence, whether normal or precocious. It believes youth the golden age of life, the child the consummate flower of creation, and most of all things worthy of love, reverence, and study."

However verbose and hypothetical Hall's theories of the ancient man-soul may seem to some of us decadent mechanists, his own students believed in it sincerely. They earnestly endeavoured to study it in the manner he advised. They left the analysis of the adult consciousness to those banal and mentally pampered thinkers who revelled in it, and set out to discover the dynamic psyche as it manifests itself in the lives of the really young.

They studied children everywhere—in school, at home, and on the playground. They pried into all their activities and uncovered their secret thoughts. They observed them as they danced, as they swam, as they formed clubs, as they sketched, and as they were affected by changes in the weather. They found out what books they like to read, which lessons to study. They inquired into their preferences in games and playthings. They

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

made lists of their faults, their amusements, their obscene words. They wrote treatises upon their historic sense, their interest in slang, their sense of self, their social consciousness, their lies, their ambitions, their money-sense, their ideals, their ethics, their methods of teasing and bullying one another, their crimes, and their attitude toward the law.

Although Münsterberg said that such studies should not be considered psychology, Hall's students had a great deal of pleasure in gathering them. And he, himself, based his famous theory of "culture epochs" on them.

"The years from about eight to twelve constitute a unique period in human life," this theory declared. "This period may represent in the individual what was once for a very protracted and relatively stationary period an age of maturity in the remote ancestors of our race. . . . The qualities developed during pre-adolescence are, in the evolutionary history of the race, far older than hereditary traits of body and mind which develop later and which may be compared to a new and higher story built upon our primal nature." In other words, "adolescence is a new birth, for the higher and more completely human traits are now born."

As Hall's research converged sharply upon adolescence he became all the more interested in the trait which characterizes that floundering period most profoundly—sexual maturing. Since his first studies of religious psychology, of course, Hall had been convinced that erotism should have a very important place in any psychic theory; but his professorial colleagues had continued to ignore the very possibility of sex as persistently as the primmest of old maids. Hall was there-

E. B. TITCHENER AND STANLEY HALL

fore tremendously impressed with Freud's open and courageous attack upon that tabooed subject. And it is really quite remarkable how closely the ideas of the Austrian physician coincided with those of the American ex-preacher. Freud, it is true, did not describe the child as the consummate flower of creation, but he did consider it exceedingly worthy of study. And it was from his examination of the "buried" mind of a neurotic six-year-old boy that he devised the theory that has made psychoanalysis the popular discipline that it is to-day.

CHAPTER VI

THE PSYCHOANALYSIS OF SIGMUND FREUD

SIGMUND FREUD sincerely believes, and hordes of admirers agree, that he is the revolutionary, scientific heir to Darwin and Copernicus. He also thinks that his hypothesis of the libidinal unconscious, which is as important to psychology as the theory of evolution was to biology, has been wilfully misrepresented and he, himself, maligned. His detractors, he finds, have accused him of saying that one should give one's sexuality full rein. He could not, of course, have ever advocated such a policy. For if ridding the human race of its complexes, inhibitions, suppressions, and repressions could be accomplished by means as simple and natural as that the world would have no need for psychoanalysts. And a psychoanalyst is, in Freud's opinion, one of the few noble and desirable things evolved by a dubiously beneficial civilization.

If Freud really wants to complain about misinterpretation, however, he should forget his avowed enemies for a while and look to his half-hearted friends. The pious souls who have damned his theories in their entirety have not misconstrued his words nearly so much as have the timorous advocates of his hypotheses, who have bowdlerized and modified them into proper

THE PSYCHOANALYSIS OF SIGMUND FREUD

academic literature. It is these apologetic pedagogues who say that Freud's ideas of the unconscious are sound enough if one disregards his theories of dream interpretation. Nothing could be more unfair ; for, according to Freud, it is only through his analysis of dreams that a psychologist becomes acquainted with the all-powerful unconscious as it functions in the mental life of normal, adult human beings.

Then there are those quasi-Freudians who apologize for the preoccupation of psychoanalysis with the ramifications of sex. Sex, they say, means for Freud something quite different from the activities usually referred to by that small word ; as if he used it to describe some Victorian quality of sweetness and light. Freud does say that as he employs the term "sexual," it includes "all those merely affectionate impulses to which usage applies the extremely ambiguous word 'love.' " But his specific extension of "sexual" was for the purpose of making it include not only those activities which lead to reproduction but also those which are commonly called perverse.

Perversions, Freud points out, "are undoubtedly sexual in character ; whether we designate them as signs of degeneration, or otherwise, no one has yet had the courage to place them outside the phenomena of sex. They alone justify the assertion that sexuality and reproduction are not coincident, for it is clear that all of them disavow the goal of reproduction." Moreover, Freud believes that a phenomenon like kissing, bridges the rather narrow distance between the normal and perverse. And finally he states : "We are forced to regard the desire for an object of one's own sex as a

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

universal aberration of erotic life and to cede increasing importance to it."

It is easy to understand why squeamish persons, who like Freud's theory of a dynamic psyche, might still find it desirable to brighten up his concept of erotism ; but they are doing him a grave injustice when they try to excuse him. Though he has altered his dogmas more than once, Freud has never found it necessary to apologize for anything he has ever written. There is something positively regal about the way he quietly proclaims his psychoanalysis to be a science and still holds it immune to all the tests of scientific procedure. When asked what justification there is for his bland assumption that dreams are not somatic but psychic phenomena, Freud quickly replies : "None, but that alone need not deter us from making it."

Such self-assurance is conspicuously lacking in the laboratory psychologists. They are so proud of the demonstrable nature of their experiments that it is with difficulty that they refrain from including photographs of their methods with every discussion of their results. Yet Freud, claiming to be every millimetre as scientific as they, calmly asserts that a demonstration of an analyst probing upon the infantile relics of his patient's unconscious is impossible. "The communications which are necessary for the analysis are made under conditions of a special affective relationship to the physician ; the patient would become dumb as soon as he became aware of a single impartial witness." As to what goes on, and what is discovered about the human psyche, in these encounters, we must then accept the individual physician's word or nothing at all.

THE PSYCHOANALYSIS OF SIGMUND FREUD

Not only is an outsider denied the privilege of seeing an analyst at work ; the psychiatrist himself can never glimpse directly the specific material with which he deals. The introspectionists, long before the invention of the psychological experiment, could tell their reader to look within his own mind and view the conscious processes of which the psychologists wrote. But a psychoanalyst knows the unconscious only through his inferences about mental activities which are themselves not unconscious. Yet Freud says imperturbably : " When anyone wants to bring forward the objection that the unconscious can have no reality for science and is a mere makeshift (*un façon de parler*), we must simply shrug our shoulders and reject his incomprehensible statement resignedly."

No matter how preoccupied Freud may be with the sexual impulse and its oral, anal, and incestual manifestation, no one could justifiably call him immoral. He makes sex anything and everything except an attractive pastime. He acknowledges regretfully that his work forces him to deal with the darker side of human nature, but he does not on that account try to make its hues appear any brighter than they are. He admits that the impulsive wishes which push themselves toward consciousness in dreams come from " a veritable hell," but his whole life is spent in an endeavour to make these unconscious dynamics less infernal. Freud calls religion an illusion, yet it is only among the anointed perpetrators of that illusion in its starkest form that one can find persons so seriously exercised about the good and evil in man's nature as is Sigmund Freud. Surely it has been a long time since a psychologist

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

has been so fervently concerned with the problem of conscience.

Conscience to most students of the mind has always been something of a bother. The more modern among them now neglect it entirely and confine their attention to less lofty mental manifestations. Even the older psychologists seldom made conscience a particular subject of inquiry. Most of them felt the ethical necessity of discussing it at some length, but they made it a sub-problem of will, instinct, ideation, or some other accepted function. Freud, however, has promoted conscience to the highest category of his threefold psychic hierarchy.

The human psyche which is, according to Freud, for the most part unconscious, can be, he believes, roughly divided into three separate structures and activities. First of all there is the primordial, unconscious, instinctive, unmoral, pleasure-loving, pain-hating, passionate, illogical Id, which is the source of psychic energy and the reservoir of the erotic impulse. But the primal passions of the Id find a checkmate in the censorial Ego which mediates between it and the external world. And standing tyrant over both Ego and Id there reigns the hyper-moral Super-Ego. About this last and highest psychic organization there is, Freud admits, still a great deal to be learned, but he is convinced that it "answers in every way to what is expected of the higher nature of man," and that it is closely allied to, if not essentially the same as, the power which moralists call conscience.

If the lofty morality of the Super-Ego does not satisfy all those watchdogs of Zion, whose appetite Hall thought so voracious, then Freud can offer them the

THE PSYCHOANALYSIS OF SIGMUND FREUD

most convincing picture of infant damnation that mortal man has ever conceived. The Puritan theologians applied enough bad words to the vile and nefarious monsters who inhabit the world in the form of little children, but Freud is so much more specific about their villainies. All the "frightful evil" which can be detected in the minds of wicked men is, he is sure, "simply the original, primitive, infantile side of psychic life, which we may find in action in children."

The small child as Freud explains him is a rather dreadful creature, about as terrible a one as can be imagined. He is incestuous and an incipient patricide. He is auto-erotic, narcissistic, and "polymorphous perverse." He is impervious to disgust, has tendencies toward bestiality, and derives sexual enjoyment from nursing, defecating, and urinating. Jonathan Edwards, himself, never said more uncomplimentary things about the human young. And Freud paints its possible future in the mortal world just as discouragingly as Edwards did in the world to come. If as an adult he gives way to his primal, libidinal impulses, he is so anti-social and horrendous that no one else will have anything to do with him; but if he succumbs to the strictures of civilization and renounces them, he becomes so repressed, inhibited, and fixated, that he will be unable to get along with himself.

Freud also has a salvation, rather different but just as efficacious as Edwards's. The Puritan divine would exhort miserable humanity to ask God's forgiveness; the Viennese physician urges it to seek a psychiatrist's advice. Both forms of redemption require from the penitent a complete confession of misdeeds, both

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

executed and imagined, and of all hidden thoughts and desires. In ministering to misguided souls, an analyst becomes almost godlike. He may lack omnipotence and omnipresence, but in regard to human motivation he seems very nearly omniscient. He can tell us why we mislay our keys and forget our engagements, why we dream of houses and enjoy obscene jokes, why we greet an acquaintance by the wrong name and misspell familiar words, what makes us stingy and why we marry just the very kinds of persons that we do. His simplest answer to all these whys is because we want to, because we obey the "pleasure principle."

Now, there is nothing intrinsically novel in Freud's insistence that the human being always seeks pleasure and tries to avoid pain. Hedonism is even older than the Greek philosophers who incorporated it in metaphysics ; schoolchildren learn to couple pleasure-pain with Spencer-Bain ; and even Wundt's academic theory of the emotions recognized pleasantness and unpleasantness, along with excitement and inhibition, strain and relaxation, as the essential affective antagonists. It is the ingenuity and the intensity with which Freud has carried through his belief in the "psychic flight from unpleasantness" that has marked out his hypothesis from all others and given it its tremendous influence over contemporary thought.

The whole of the psychic life is to Freud a vast "arena of the struggles and exercises of antagonistic tendencies." Not only is the Super-Ego tyrannical toward the Ego, and the Ego in turn censorious of the Id ; but within the dark, mysterious caverns of the Id, itself, there are two continuously warring factions : the death or destruc-

THE PSYCHOANALYSIS OF SIGMUND FREUD

tive instinct which seeks complete passivity, and the Eros impulse which yearns toward life.

The death instinct receives its most violent shock when the fetus in which it is incorporated is born into the world. Birth, according to psychoanalytical doctrines, is really a tragic experience, and it leaves scars upon the psyche which nothing in later life can erase. It is, Freud suspects, "the early impression which the emotion of fear repeats." Ever afterwards when we crawl into our beds at night we try once more to negate fear by retreating back into the quiet life we led before this great emotional accident of parturition overtook us. At least, this is how Freud explains the phenomenon of sleep :

"Our relation to the world into which we came so unwillingly, seems to include the fact that we cannot endure it without interruption. For this reason we revert from time to time to the pre-natal existence, that is, to the intra-uterine existence. At least we create for ourselves conditions similar to those obtaining at that time—warmth, darkness, and the absence of stimuli. Some of us even roll ourselves into tight packages and assume in sleep a posture very similar to the intra-uterine posture. It seems as if the world did not wholly possess us adults, it has only two-thirds of our life, we are still one-third unborn. Each awakening is then like a new birth."

One of Freud's pupils, Otto Rank, makes birth not only the most important experience in life but the motive force for all later activities. Every human activity,

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

from thumb-sucking to the consummation of romantic love, Rank can interpret as a substitution for the pleasures of intra-uterine existence.

Freud goes less than half-way with Rank in according significance to the birth trauma, for to Freud the truly important psychic dynamo is "libido," an impulse analogous to hunger, through which the sex instinct expresses itself. As soon as it is born the child finds various strange ways of satisfying its libido. The earliest is in nursing at its mother's breast. This is Freud's famous description of love's awakening :

"The suckling reveals the first sexual impulses in connection with other functions necessary to life. His chief interest, as you know, is directed toward the taking in of food ; when it has fallen asleep at its mother's breast, fully satisfied, it bears the expression of blissful content that will come back again in later life after the experience of the sexual orgasm. That of course would be too slight evidence to form the basis of a conclusion. But we observe that the suckling wishes to repeat the act of taking in food without actually demanding more food ; and he is therefore no longer urged by hunger. We say he is sucking, and the fact that after this he again falls asleep with a blissful expression shows us that the act of sucking itself has yielded him satisfaction. . . . And so we learn that the suckling performs actions that have no object save the obtaining of sensual gratification. . . . The gratification can only be attributed to the excitation of the mouth and lips, hence we call these parts of the body *erogenous zones* and the pleasures derived from sucking sexual. . . ."

THE PSYCHOANALYSIS OF SIGMUND FREUD

“With no small degree of surprise,” Freud continues, “we learn through psychoanalysis how much of the physical significance of this act is retained through life. The sucking at the mother’s breast becomes the term of departure for all sexual life, the unattained ideal of later sexual gratification, to which the imagination often reverts in time of need. I can scarcely bring home to you how significant this object is for centering on the sexual object in later life, what profound influence it exerts upon the most remote domains of psychic life through evolution and substitution. The suckling, however, soon relinquishes it and fills its place by a part of his own body. The child sucks his thumb or his own tongue. Thereby he renders himself independent of the consent of the outer world in obtaining his sensual satisfaction, and moreover increases the excitement by including a second zone of his body. The erogenous zones are not equally satisfactory, it is therefore an important experience when . . . the child while touching his own body discovers the especially excitable genitals, and so finds the way from sucking to onanism.

“Through the evaluation of sucking we become acquainted with two decisive characteristics of infantile sexuality. It arises in connection with the satisfaction of great organic needs and behaves *auto-erotically*, that is to say, it seeks and finds its object on its own body. What is most clearly discernible during the taking in of food is partially repeated during excretion. We conclude that the nursing experiences pleasure during the excretion of urine and the contents of the intestine and that he soon strives to arrange these acts in a way to secure

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

the greatest possible amount of satisfaction by the corresponding excitement of the erogenous membrane zones. . . . He experiences no disgust towards his fæces, values them as a part of his body from which he does not part lightly, for he uses them as the first 'present' he can give to persons he esteems particularly. Even after education has succeeded in alienating him from these tendencies, he transfers the evaluation of the fæces to the 'present' and to 'money'. On the other hand, he appears to regard his achievements in urination with especial pride."¹

With all these experiences upon which to expend its energy, one would think that the baby might be satisfied with this happy condition of auto-erotism, and its libido content with the corresponding state of narcissism. But human nature, as it is psychoanalytically interpreted, never knows when it is well off. Though it has nursing and devouring, thumb-sucking and biting, toe-sucking and swallowing, retaining and expelling, all going on within itself and all affording it great delight, the infant is still not satisfied just with its own body. It begins to wonder about the bodies of others. "The sexual curiosity of children begins very early," Freud assures us, "sometimes before the third year."

This precocious wonderment leads to two rather strange misapprehensions which, Freud is sure, are shared by all children everywhere. First, "children unite in believing that the birth of a child takes place through the anus ; that the child therefore appears as a

¹ Freud, Sigmund : *A General Introduction to Psychoanalysis*, pp. 270-272.

ball of fæces.” The second bit of general misinformation is even more curious and its correction, through a knowledge of the true facts, leads to dire results. It is a belief that everyone is born with a penis. The later discovery that such is not the case causes the formation of what Freud terms the “castration complex.” This complex works differently for boys and girls, but neither is ever quite free of it.

“When the boy first discovers the primary sexual structure of the female, he tries to deny the evidence of his senses,” Freud explains. “Later he is terrified at the possibility revealed to him and feels the influence of all the former threats, occasioned by his intensive preoccupation with his little organ. He becomes subject to the domination of the castration complex, the formation of which plays an important part in the development of his character, provided he remains healthy; of his neurosis, if he becomes diseased; of his resistance, if he is treated analytically. We know that the little girl feels injured on account of her lack of a large, visible penis, envies the boy his possession and primarily from this motive desires to be a man.”

The castration complex does not stand alone within the childish psyche. It is, in an exceedingly complicated manner, connected with another complex which is even older than it and which has been in the process of formation ever since the first pleasant contact with the mother's breast. This second group of dynamic ideas Freud designates as “the *Œdipus-complex*, because this myth realizes with a very slightly weakened effect the two extreme wishes which grow out of the situation of the son—to kill his father and take his mother to wife.”

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

Though the Œdipus-complex runs truer to the original pattern in boys, their sisters do not escape its effects. Because both boys and girls find their first sexual satisfaction at the breast of their mother, Freud calls her "the first *object of love*." Since at that early age both boys and girls are polymorphous perverse and have as yet not learned to distinguish between the sexes, it is quite natural for the girl baby to share this incestuous love with her brother.

Fairly soon after birth the baby becomes aware of another important person in its immediate environment : its father. The male parent is hindered anatomically from satisfying its "oral pleasure impulse," but he does a great many things for his progeny's comfort and amusement. So his young children soon become incestuously fond of him too. Thus Freud assumes "a complete Œdipus" for both sexes in their earliest existence. Boys and girls are in love with both their parents.

As time goes on, however, the boy becomes more and more infatuated by his first love object, his mother ; and on that account bitter and jealous toward her preferred mate, his own father. Thus his boyish wishes toward his parents approach closely the actions of the original Œdipus. But as the daughter feels the shame of her castration complex, she turns from the mother, whom she blames for her deprivation and who shares it with her, and centres her affection and desires upon her manly father.

Whatever may be the sex of the beloved object and its lover, there is never an aura of sweet and shameless innocence about these little family dramas. Even to the infantile psyche they seem culpable, and so its thoughts

THE PSYCHOANALYSIS OF SIGMUND FREUD

about them become furtive. "At the time when the mother becomes the object of love, the psychic work of suppression which withdraws the knowledge of a part of his sexual goal from his consideration has already begun in the child." Just as all adult fears have their prototype in the tragic experience of birth, so does another plague of the human mind originate from the infantile incestuous desires. For, says Freud: "Perhaps mankind as a whole has at the beginning of its history, come by its consciousness of guilt, the final source of religion and morality, through the Œdipus-complex."

Few of us, of course, remember the terror or shame with which the castration complex seized us, or the carnal desires and patricidal wishes with which the Œdipus fired us. It is well for Freud's theory that we do not. If we remembered them we would be conscious of them; and it is not the thoughts and desires which the Ego allows into our adult consciousness which are the motive forces of our personalities, but rather those which rage or slumber within the dim recesses of our unconscious.

We cannot remember our childish desires because incest is something of which society is rather intolerant; wilfully and stupidly intolerant, Freud thinks. But these impulses, which conventional morality bids us repress and which are repressed from the very moment they occur, have not, he is positive, "really been forgotten." They have merely been shunted back into the unconscious where they are very much alive and exceedingly powerful.

Although Freud finds it difficult to explain the exact psychic mechanism of successful repression he is certain that once an idea has been forced back into the un-

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

conscious it has a devil of a time coming to light again. Its very detection requires the keenest analytic skill. Indeed it is miraculous that psychic impulses ever become conscious at all. They cannot pass directly from their dark unconscious habitat to the clear light of introspective knowledge. They must first worm their way past "the censor" who guards the door to the "pre-conscious," and even then it is only by sheer good fortune that they are "successful in attracting to themselves the glance of the conscious."

Not all the energy of the libido is consumed by the unconscious infantile desires. Normal persons substitute others for the original parental objects of their love. Some of the libidinal vigour may even be directed to non-erotic objects by the process of sublimation ; but not much. Although many of Freud's disciples attribute everything from the drinking of a sociable toddy to the production of an artistic masterpiece to sublimation, his own belief is that this mechanism can "never account for more than a certain small fraction of the libido, and finally most people possess the capacity for sublimation to a very slight degree."

While psychic impulses may thus find satisfaction in objects more appropriate to maturity, a great many of them, even in normal persons, are held fast through the process of "fixation" to the incestuous desires of infancy. And from time to time others, which have tried to grow up and have failed, are added to them through "regression." Evidence of the motive power of the libidinal unconscious is to be found in every sane adult each time he lies down to sleep.

Sleep itself, as we have already learned, is a function

THE PSYCHOANALYSIS OF SIGMUND FREUD

of regressive wish-fulfilment, "a picture of blissful isolation in the intra-uterine life." So that this happy state may continue without interruption, "sleep disturbing psychic stimuli" are hallucinated into dreams. And while the dream is thus maintaining the pleasant substitute for the womb, it can satisfy the immoral cravings of the Id in still more active ways. It hallucinates the psychic wishes not only in such a way that they will protect sleep, but also so that they will gratify unconscious desires. A suppressed wish is thus the source of every dream. In sleep the libido "chooses its objects without inhibitions, and indeed, prefers those that are forbidden."

Many people deny emphatically that their dreams ever satisfy any such nefarious wishes as Freud says they do. The sceptics contend that they dream about familiar objects, places, and persons, and recent events; only that the happenings seem somewhat scrambled and illogical. Certainly, Freud agrees, we dream about current impressions; some dreams are even caused by stimuli immediately affecting the sleeper, such as warmth or cold or pressure. But the dream that is recalled upon awaking in the morning is remembered consciously, and it is not this manifest dream which has significance to the analyst, but the latent unconscious dream which it both represents and distorts.

Who knows about these hidden, evil dreams which lie behind the apparently innocent fancies which we like to think run through our minds during sleep? The psychiatrists who have grown expert at their interpretation, but also, very likely, we ourselves. "For I assure you," says Freud, "it is very possible, in fact probable that the

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

dreamer does know what his dream means, but does *not know that he knows, and therefore believes that he does not know.*" The perplexed dreamer should certainly not be blamed for not knowing that he knows what he knows, for Freud is positive that the wish-fulfilment does not become apparent until after the dream has been interpreted, and dream interpretation is anything but a simple and straightforward task.

A man's conscious mind may sleep at night, but the ever-watchful censor in his Ego stays awake and on the job. The censor is a bit more liberal during the night, however ; instead of suppressing the libidinal desires entirely he is willing to distort them beyond recognition. He (in psychoanalytic literature the censor is described as though it were a real person) has quite a task on his hands, however, in trying to keep the infernal Id satisfied with its nocturnal appearance in timely and innocent guise. The Id is inclined to become intoxicated with just this little freedom and seeks to cast off its stage-clothes and show itself in all its primal, evil nakedness. But whenever "the censorship feels itself powerless with respect to a dream-wish which threatens to over-rule it, then, instead of distortion, it makes use of the final means at its disposal, it destroys the sleep condition by the development of anxiety."

Ordinarily, however, the censor can satisfy both the Ego, his master, and the Id, his unwilling slave, by the use of "dream-work—a process of a very peculiar sort, the like of which has hitherto not been discovered in psychic life." After our libidinal dreams have been subjected to this alchemy, there is every reason for our not knowing that we know what they mean, for by then

THE PSYCHOANALYSIS OF SIGMUND FREUD

they have been changed beyond recognition. Yet Freud warns us that "we must not overestimate the dream-work, nor attribute too much to it; . . . beyond condensing, displacing, representing plastically, and then subjecting the whole to a secondary treatment, it can do nothing." That, in all fairness, seems enough. What more could be needed to make the latent dream unrecognizable in the manifest? Symbolism, Freud replies. "Symbolism is perhaps the most noteworthy chapter of dream study."

Indeed Freud considers symbolism a not unimportant chapter of any psychology. Language, of course, is filled with it, and he thinks we should never underestimate the value of words. Still language covers only a small part of symbol-relations and those in lingual usage and in dreams do not exactly coincide. He therefore believes that in dreams we are confronted with "an ancient but no longer existent method of expression, of which various phases, however, continue in different fields." There is, however, an important and telling distinction between ordinary symbolic representation and that which is typical of dreams. It is that "symbolism in these other fields is by no means sex symbolism solely, while in the dream the symbols are used almost entirely to express sexual objects and processes."

It is for this reason that Freud cautions us to beware of dreams that appear indifferent or "conspicuously innocent," because they "invariably embody coarse erotic wishes." In fact, "the majority of the dreams of adults treat of sexual material and give expression to erotic wishes." The truly typical dream symbol is a house; it always signifies a human body. "It occurs in

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

dreams that a person, now lustful, now frightened, climbs down the front of houses. Those with entirely smooth walls are men ; but those which are provided with projections and balconies to which one can hold on, are women."

Some other symbols which Freud finds occurring regularly are these :

The womb of the mother is represented by

Wardrobes.

Stoves.

Rooms.

Landscapes and localities which are conspicuously familiar.

Birth by

Passing through narrow spaces.

Plunging into, climbing out of, or being rescued from water.

Parents are signified by

Royal personages.

Nakedness by

Clothes and uniforms.

A genital in general, regardless of sex, by

A little child.

The small son or daughter.

Onanism by

Playing with little children or beating them.

Sliding.

THE PSYCHOANALYSIS OF SIGMUND FREUD

Coasting.

Tearing off a branch.

Playing upon the piano.

Dental irritation.

Castration as a punishment for onanism by

Teeth falling, or being pulled, out.

Specific male symbols are

The holy figure 3.

Reptiles.

Coats.

Women's hats.

Penetrative and therefore injurious objects,
such as

Knives.

Daggers.

Lances.

Swords.

Guns.

Revolvers.

Objects out of which water may flow, such as

Faucets.

Water-cans.

Fountains.

Long and upright objects, such as

Sticks.

Poles.

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

Trees.

Umbrellas.

Objects which have the power of elongation,

Hanging lamps.

Collapsible pencils.

Objects which can raise themselves against gravity,

Balloons.

Aeroplanes.

Zeppelins.

Landscapes with bridges and wooded mountains.

Keys.

Other parts of the body.

All kinds of very complicated machinery.

Typical *female symbols* are

Laundry.

White linen.

Books.

Set tables.

Pits.

Caves.

Hollows.

Pitchers.

Bottles.

Trunks.

Jars.

Ships.

Shoes.

Slippers.

Jewel-caskets.

Stoves.

Closets.

Blossoms.

Mussels.

Snails.

Wood.

Paper.

Scenes with cliffs,
woods, and water.

THE PSYCHOANALYSIS OF SIGMUND FREUD

The *genital opening* appears as

A door.

An entrance.

The mouth.

Base passions are symbolized by

Wild animals.

And the *relation of the sexes* by

Sweets.

Stairways.

Ladders.

Flights of stairs.

Dancing.

Riding.

Manual activities.

Climbing.

Being threatened with
weapons.

Being run over.

Eating.

Freud's own patients have provided him with abundant material for his theory of dream symbolism. And it should be instructive to examine a few of the dreams which he himself has analyzed.

This first dream seems so perfectly adapted to interpretation that it looks almost as if it must have been dreamed to order :

“Between two stately palaces stands a little house, receding somewhat, whose doors are closed. My wife leads me a little way along the street up to the little house, and pushes in the door, and then I slip quickly and easily into the interior of a court-yard that slants obliquely upwards.”

By way of its explanation, Freud says : “Anyone who has had experience in the translating of dreams will, of

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

course, immediately perceive that penetrating into narrow spaces, and opening locked doors, belong to the commonest sexual symbolism, and will easily find in this dream a representation of attempted coition from behind (between the two stately buttocks of the female body). The narrow slanting passage is of course the vagina ; and the assistance attributed to the wife of the dreamer requires the interpretation that in reality it is only consideration for the wife which is responsible for the detention from such an attempt."

The next dream seems simple enough, for it can be told in just this one sentence : " At her summer resort at the — Lake, she hurls herself into the dark water at a place where the pale moon is reflected in the water." Yet its analysis, which Freud calls " pretty," is a trifle tortured. " Dreams of this sort," he says, " are parturition dreams ; their interpretation is accomplished by reversing the fact reported in the manifest dream content ; thus, instead of ' throwing one's self into the water,' read ' coming out of the water,' that is, ' being born.' The place from which one is born is recognized if one thinks of the bad sense of the French ' la lune.' The pale moon thus becomes the white ' bottom ' (Popo), which the child soon recognizes as the place from which it came."

To interpret this last dream one must be an expert at analysis. " He is in a deep shaft, in which there is a window as in the Semmering Tunnel. At first he sees an empty landscape through this window, and then he composes a picture into it, which is immediately at hand and which fills out the empty space. The picture represents a field which is being thoroughly harrowed by an imple-

THE PSYCHOANALYSIS OF SIGMUND FREUD

ment, and the delightful air, the accompanying idea of hard work, and the bluish-black clods of earth make a pleasant impression."

Is its meaning clear? According to Freud it is "the dream of a young man who in his fancy has already while in embryo taken advantage of his opportunity to spy upon an act of coition between his parents."

CHAPTER VII

THE ANALYTICAL CONTRIBUTIONS OF ALFRED ADLER AND CARL JUNG

STANLEY HALL, as he quickly realized, had been a bit too sanguine in expecting the academic psychologists, to whom he so enthusiastically introduced Sigmund Freud, to succumb immediately to his analytic theories. Conventional psychology had occupied itself too long and too complacently with the bright conscious twigs of the human mind to be able to shift its interest to the dark unconscious roots with any suddenness. The professors assembled at Clark listened politely to Freud's exposition of the libidinous, dynamic psyche, but most of them went serenely back to their laboratories and their introspections without once suspecting that the unfamiliar words they had heard foreordained the end of their own supremacy in psychic matters. Some were even heard to remark that Freud's hypotheses were naïve. In 1909, only Joseph Jastrow and E. B. Holt shared Hall's cordiality toward his ideas.

The academic aloofness could not, however, prevent the psychoanalytical revelations from spreading throughout the land. Freud's lectures were soon printed and before long his exotic terminology had found a welcome place in the American language. And, of course, many

psychiatrists had also been present at Clark's twentieth anniversary. They had sworn no allegiance to introspection, nor were they unduly influenced by academic prudery. They greeted enthusiastically the analytic transference as a therapeutic technique. In fact, one American alienist, Dr. A. A. Brill, had the year before met with a number of European physicians to found the International Congress of Psychoanalysis. And by the time his American colleagues had heard Freud expound his thesis, American psychiatry was rapidly becoming analytical in concept.

The subsequent work of two members of the original congress of psychoanalysts, Alfred Adler and Carl G. Jung, is of especial significance because a few years later they broke with the completely loyal Freudians and established rival schools of their own. In so doing they each contributed to psychology a new terminology which in America soon became as popular as Freud's own. Jung has given us "introversion" and "extra-version," and Adler "the inferiority complex."

There is always a disappointing shock in store for the psychoanalytically, especially the libidiously, curious, who, having heard Freud's and Adler's names coupled so frequently that he confuses the two, comes upon the latter when he really seeks the former. He discovers a noticeable lack of sexual symbolism and precious little anal, oral, or other kinds of erotism. Not that Adler's theories do not show traces of his earlier Freudian discipleship. They do, and conspicuously; only their emphasis is so different.

In his more general discussions of psychic mechanisms

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

Adler's concepts parallel so closely those of his former master that he seems almost to be quoting him. Like Freud, Adler also believes : " We may seek and find the behaviour pattern of a man in the unconscious. In his conscious life we have but a reflection, a negative, to deal with." He also agrees that " psychic anomalies, complexes, mistakes, which are found in nervous diseases, are fundamentally not different in structure from the activity of normal individuals " ; that " dreams offer us important grips on the problems of psychic life " ; and finally, that " the most important determinants of the structure of the soul life are generated in the earliest days of childhood." But as soon as Adler begins to describe the infantile psyche his deflection from orthodoxy becomes obvious.

Adler does not regard the family primarily as a Freudianly incestuous group. Rather he finds it hard to imagine " an institution better adapted to the care of children." He does admit that " the first tendencies toward love and tenderness are concerned with the relationship to the mother." But he considers this " the most important experience which a child can have," not because it is evidence of the universal inheritance of Œdipus's desires, but because through it the baby " realizes the existence of another entirely trustworthy being."

Adler has a great deal to say, even more than Freud, about the inferiority of women. He accepts the fact that apparently every woman wishes she were a man. Yet his discussion of woman's lowly position entails no evocation of the castration complex, for Adler does not believe that she is really inferior. He says that " the

story of the lesser capability of woman is a palpable fable," that the superiority of man is a "fallacy." And his exposure of the grievous wrongs caused by these two erroneous myths constitutes the greater part of his consideration of the problem of sex.

Freud has often regretted that society's wilful blindness toward all "the frightful evil" in man's nature has forced him to dwell so prominently upon it. Adler apparently believes that the pendulum of psychic interest has already swung too far toward the sexual impulses. So he tries to right its course once more by emphasizing the "egotistical strivings toward power" that motivate every individual. But although man seems less erotic to Adler than he does to Freud, he does not on that account appear any happier. If Freud constantly exposes humanity's carnal desires, Adler continually contemplates its miseries.

"A real appreciation for human nature," he asserts, "will be gained only by one class of human beings. These are the contrite sinners, either those who have been in the whirlpool of psychic life, entangled in all its mistakes and errors, and saved themselves out of it, or those who have been close to it and felt its currents touching them. . . . The contrite sinner seems as valuable a type in our day and age as he was in the days when the great religions developed."

Adler has every right to feel doleful about humanity, for man as he sees him is the weakest and most unfortunate of all animals. "Imagine a man alone, and without an instrument of culture, in a primitive forest!" he shudderingly suggests. "He would be more inadequate than any other living organism." The very fact that

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

man possesses a mind is to Adler convincing proof of what an extremely "inferior organism" he is. The "psychic organ," he is sure, "developed for the express purpose of compensating for sentiments of inferiority and insecurity." "The very stimulation growing from an uninterrupted feeling of inadequacy, developed foresight and precaution in man, and caused his soul to develop to its present state, an organ of thinking, feeling, and acting."

How a creature could have had such a powerful feeling even before it developed the organ through which it feels, Adler does not explain. Yet if the sentiment of inadequacy could have produced the motive, emotive, and cognitive human mind, it should be easy for it to bring about all the subsequent activities of that mind. Adler believes that it is. So in place of Freud's two major complexes, the castration and the Œdipus, he proposes one, that of inferiority. And when Adler sets out to prove how subject humanity is to its inferiority complex, he makes a thorough job of it.

Not only is man the most inadequate of all living creatures, but in the earliest days of his life he is inferior, in his infant helplessness, to every other man. Do not get the impression that the baby is ignorant of his inadequacies; Adler believes he is deeply aware of them. "One realizes that the beginning of every life is fraught with a more or less deep feeling of inferiority when one sees the weakness and helplessness of every child." Adult character is the final product of this babyish insufficiency.

As a child grows up it meets still other perpetrators of inferiority feelings, so instead of becoming more sure

of itself, it becomes less so. In the first place, the chances are that its body will not be quite perfect. Few of us are completely deaf, blind, halt, or lame, but many have tendencies toward one or another of these conditions. And our physical blemishes, however slight, always mark us mentally for life. Yet true organic deficiencies are the least of the misfortunes which Adler finds mankind to be heir to. Actual inferiorities, he believes, are no more influential upon the building of our characters than those which are merely imagined but rigidly believed in.

From this latter class all females suffer. Although Adler is certain that the story of woman's lesser capability is a palpable fallacy, he finds that she, herself, is not so sceptical. "An adolescent girl," he remarks, "acts very much as though she were inferior, and what we have said concerning the compensation of organic inferiorities holds equally well for her. The difference is this: the belief in her inferiority is forced upon a girl by her environment."

Though men do not have this false sense of sexual inadequacy piled upon the inferiority feelings caused by species, infancy, and physical deficiencies, few of them escape its consequences. Many hear so much about their superiority that they begin to doubt it, and so become Don Juans. For a Don Juan, Adler says, "is a man who doubts his own manliness, and is constantly seeking additional evidence for it, in his conquests."

Even if a man is sufficiently sure of his manliness to keep it within conventional bounds, he is apt to develop other varieties of inferiority feelings just from being

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

born, or, rather, from being born at the time he happens to be born. It makes all manner of difference whether he appears in the world before, after, or in the midst of his brothers and sisters.

The oldest child, Adler believes, gets off easiest. He understands that his age gives him power and honour. The worst that can come to him from it is to grow up "markedly conservative." The baby of the family seldom fares so well. He is "like a child who has come into the world with weak organs. What the child *feels* need not actually be the case. It does not matter what really has happened, whether an individual is really inferior or not. What is important is his *interpretation* of his situation." Some youngest children interpret their situation sanely and so manage to grow up into "active and capable individuals." Yet Adler warns: "When a youngest child loses his courage he becomes the most arrant coward we can well imagine."

"Second born children," because there are always slightly older rivals awaiting them in the hostile world, "are constantly under steam, striving for superiority under pressure. . . . The second child may place his goal so high that he suffers from it his whole life, annihilates his inner harmony in following, not the veritable facts of life, but an evanescent fiction and the valueless semblance of things."

As sad as is the plight of the more youthful members of large families, it is as nothing compared with the handicaps imposed upon only children. They, Adler asserts, "have difficulties with every independent activity and sooner or later they become useless for life. Shipwrecks in their life's activity are to be expected."

An only boy among several girls is even more unfortunate than his falsely appraised sisters. "He never senses with certainty the privilege which in our retarded masculine civilization is given to every male. A lasting insecurity, an inability to evaluate himself as a human being, is his most characteristic trait. He may become so intimidated by his womenfolk that he feels that to be a man is equivalent to occupying a position of lesser honour."

Mankind as seen through Adler's eyes appears markedly inadequate to coping with the rather intricate business of living. Yet with that ingenuity for making any idea, however true or trite, fit each and every situation, which characterizes all psychoanalytical doctrines, Adler is able to prove that in its very weakness lies mankind's strength. He cautions us that "inferiorities are not to be considered as the source of all evil. Only the situation can determine whether they are assets or liabilities." Indeed, he often finds the most fortunate persons to be those who are physically far from perfect. Automobile drivers and locomotive engineers, he believes, were youngsters who "had difficulties in locomotion," and so constructed "an ideal for themselves which is permeated with violent and hasty movements." Children who in later life become musicians are those "who have auditory defects."

It happens, by a coincidence, that two of the vocational problems which have most concerned the applied psychologists are those which have to do with selecting engineers and musicians. Münsterberg's first experiments in psychotechnics were devised so as to pick

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

skilled motormen ; and for many years the University of Iowa has been psychologically famous because of Professor C. E. Seashore's tests of musicianship. According to the Adlerian theory, these investigators (though Adler has never referred to them) have always been on the wrong track. They have tried to find motor co-ordination and musical acuity in grown-ups, while they should have sought clumsiness and partial deafness in infants.

In Adler's conception of human nature, it is not a man's talents or abilities which determine his success, but his very deficiencies. " It is the feeling of inferiority, inadequacy, insecurity, which determines the goal of an individual's existence." The more inferior he is in reality, or in his own imagination, the higher does he set his goal. Just as the soul of all humanity developed from a feeling of comparative physical weakness, so does the character of every separate man arise from his realization of his helplessness during infancy. And from the minute a baby is definitely convinced that he is really at the mercy of none-too-friendly adults, his whole psychic growth is controlled by his craving for power. " A desire to grow, to become strong or even stronger than all about him becomes his chief purpose in life."

For achieving this purpose, the inordinately ambitious baby soon discovers that two methods are open to him. " On the one hand, to continue activities and methods which he realizes the adults use, and on the other hand to demonstrate his weakness, which is felt by these same adults as an inexorable demand for their help."

Adler is sure that this persistent "striving for a goal, the purposiveness of the psychic life is not only a philosophic assumption, but actually a fundamental fact." If it is, then the task which Adler calls "understanding human nature" is tremendously simplified. Humanity, according to his estimate, shows only two dominant factors and these are related to each other as cause to effect. "One of these factors is an exaggerated, intensified, unresolved feeling of inferiority, and the other is a goal which demands not only security and peace and social equilibrium, but a striving to express power over the environment, a goal of dominance over one's fellows."

Strangely enough, but true to his love of paradoxes, Adler finds the "power attitude" most clearly exemplified in "the pattern of laziness." To the sloven, he assures us, laziness seems "the best adapted means of making life easier, while it enables him at the same time to maintain his feeling of significance."

This everlasting striving for power, which permeates every individual, would perhaps be desirable if it made for happiness as well as success. But Adler finds that it seldom does. The persistent endeavour of both children and adults to dominate their fellow-beings "results only too often in the strangulation of their social feelings." And to be superiorly anti-social is as disastrous as to be truly inferior.

Once more, then, we discover that human nature left to its own devices is pretty sure to come to grief. And again we learn that its one salvation lies within the power of psychiatrists. But the only really trustworthy psychiatrists, Adler is sure, are those contrite

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

sinners who are convinced that the inferiority complex is more fundamental than any other.

A still different picture of the truly wise alienist is presented by Carl Jung.

Jung is the most consciously literary of all the psychic physicians. Apparently he has read and memorized the words of all the authors from Longfellow (the interpretations he has put upon *Hiawatha* would doubtless have caused great consternation in Concord) to Nietzsche. But the literature with which he is most familiar is contained in the writings of his two rival psychologists, Sigmund Freud and Alfred Adler. He has studied them so assiduously that their discrepancies have finally exasperated him to the point of doing something about them.

Because Freud and Adler have both based their theories upon their studies of hysterical patients, and because all neurotics are more or less alike, Jung finds it hard to believe "that the cases of neurosis seen by Adler are totally different from those seen by Freud." On the contrary, he is certain that "both are obviously working with similar material." Yet the psychological deductions drawn from them have been so different. Why? Jung ventures an explanation: "Because of personal peculiarities each sees things from a different angle, and thus they come to evolve fundamentally different views and theories."

With the clue to follow, Jung stopped examining his own patients for a while, and applied his analytic skill to the hitherto inviolate psyches of his colleagues. He discovered that Freud, as is evident from his sexual

symbolism, is always preoccupied with external objects ; while Adler, as his emphasis upon unsuspected feelings indicates, is primarily interested in subjective emotions. Jung further found that Wagner, like Freud, was object-minded, and that Nietzsche showed Adler's subjectivity. From which research he concluded : " This difference can be nothing else than a clear difference of temperament, an opposition of two types of human mentality, one of which finds the determining factor pre-eminently in the subject, the other in the object." So, basing his observations not only upon neurotics but upon two of the world's most famous psychologists, Jung has devised his theory of introversion and extraversion.

The introverted attitude, found in Adler and Nietzsche, is, Jung explains, " revealed by a hesitating, reflective, reticent disposition, that does not easily give itself away, that shrinks from objects, always assuming the defensive, and preferring to make its cautious observations from a hiding-place." The extraverted attitude of Freud and Wagner is, on the contrary, " characterized by an accommodating, and apparently open and ready disposition, at ease in any given situation. This type forms attachments quickly, and ventures, unconcerned and confident, into unknown situations, rejecting thoughts of possible contingencies. In the former case, manifestly the subject, in the latter the object, is the decisive factor."

Jung believes that not only do philosophers and dramatists, psychiatrists and their patients, belong to one or the other of these fundamental psychic categories, but that every single man or woman is either an extravert or an introvert. These characteristics, however, are

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

not always plainly manifest, for other mental factors and dispositions often cut across and blur them. So Jung has outlined the following chart of " Psychological Types " :

Rational types, dominated by reason :

Extraverted thinking type.

Extraverted feeling type.

Introverted thinking type.

Introverted feeling type.

Irrational types, dominated by perception :

Extraverted sensation type.

Extraverted intuitive type.

Introverted sensation type.

Introverted intuitive type.

The problem of introversion and extraversion is still more complicated than even this classification might lead one to suspect. Because, Jung explains, " if we consider that no man is simply introverted or simply extraverted, but has potentialities for both attitudes, one having developed as a function of adaptation, we shall immediately hazard the conjecture that in the introvert, extraversion lies sleeping and undeveloped in the background, as likewise in the extravert, introversion has a meagre and shadowy life. This is actually the case. The introvert has in fact an extraverted attitude, but it remains unconscious, because the scrutiny of his conscious is directed always on the subject."

Jung has not yet made clear to which psychological category he thinks he himself belongs. But if he be an

introvert he has aroused his sleeping extraversion, and if an extravert he has strengthened his meagre introversional tendencies—at least sufficiently to understand, and to accept “up to a certain point,” the ideas of both the extraverted Freud and the introverted Adler. Still, he has faults to find with both of them. Freud’s sexual theory he describes as “æsthetically repellent and intellectually unsatisfying,” and the striving-to-power hypothesis of Adler as “distinctly venomous.” Also Jung has a tendency to be a trifle race-conscious when surveying the works of his rivals. At least he has remarked that “it would be an unpardonable mistake to accept the conclusions of a Jewish psychology as generally valid.”

With these generous reservations, Jung approves Freud’s technique of dream analysis as an instrument for probing into unconscious mysteries; only he thinks Freud tries to force it into psychic regions where it most decidedly does not belong. Freud treats all phantasies as though they originated within the comparatively brief life of the particular personality who dreamed of them. Jung is sure that besides his own personal memories each individual has within himself “potentialities of human representations of things as they have always been, inherited through brain structure from one generation to the next.” He even speaks of ideas, like that of the conservation of energy, which have been “stamped on the human brain for æons of time.” He therefore believes it essential to discriminate between the individual, personal unconscious, and another unconscious which he describes as impersonal, superpersonal, universal, and collective.

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

“The primordial images,” which according to Jung constitute the collective unconscious, “are the deepest, the most ancient, and the most universal thoughts of humanity. They are as much feelings as thoughts, and have indeed an individual, independent existence, somewhat like that of the ‘partial souls.’ . . . The images contain not only every beautiful and great thought and feeling of mankind, but also every wicked deed of shame and devilry of which men have been capable.”

If you would like to identify a primordial, collective image among the contents of your own dreams, then search for one that is “cosmic in character.” That, says Jung, is its one “infallible sign.” “I mean by this,” he explains, “that there is always a connection in the dream and phantasy-image with certain cosmic qualities, such as temporal and spatial infinity, enormous speed and extension of movement, ‘astrological’ connections, telluric, lunar, and solar analogies, essential changes in the proportions of the body, etc., . . . for example, where the dreamer is flying like a comet, or he becomes the earth, or the sun, or a star, or he has died, or has been transported into a strange place, or has become alien to himself, confused or mad, etc. Similarly, feelings of disorientation, or dizziness may appear along with symptoms of inflation.”

At times the impersonal unconscious projects itself in more definite forms or “arch-types.” It may give us an “animal symbol.” A strange wild beast appearing in a dream “points especially to what is extra-human, that is supra-personal ; for the contents of the collective unconscious are not merely the archaic residue of

specifically human ways of functioning, but also the residue of the animal ancestry of mankind, whose duration in time must have been infinitely greater than the relatively brief epoch of specifically human existence."

A still more significant arch-type is "the image of the demon." This is quite common and represents "the lowest and most ancient form of the concept of god. It is the dominant of the primitive tribal magician or medicine man; a peculiarly gifted individual invested with magical power. This figure very often appears in the unconscious products of my patients as dark-skinned and of Mongolian type."

Now, Jung believes that dream analysis, while quite useful so long as it confines itself strictly to the personal unconscious, fails dismally and dangerously as soon as it approaches these supra-personal, collective animals and demons—and for two reasons. In the first place, as soon as we are told what our dreams signify we begin to identify ourselves with the events and desires which they are supposed to conceal. But Jung declares: "Inasmuch as through our unconscious we have a share in the historical collective psyche, we naturally live unconsciously in a world of werewolves, demons, and magicians, etc., these being things which the ages before us have invested with a tremendous effect. We have just as much a part in gods and devils, saviours and criminals, but it would be absurd to make oneself personally responsible for these possibilities present in the unconscious."

Again, the analysis of a dream tends to destroy its symbolism; but Jung cries passionately: "The irra-

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

tional cannot and must not be wiped out. The gods cannot and must not die." He believes that history proves that widespread scepticism about supernatural affairs inevitably leads to disaster. He is convinced that if mankind had been content to remain irrational it would have escaped both the "horrors of the French Revolution," and the "unparalleled mass-murder" of the World War.

This does not mean that Jung, himself, entertains no doubt about the existence of God. In fact he does not care whether there is really any god or not ; but his belief in the powerful force of the unconscious, collective arch-types is absolute. "The concept of god," he explains, "is simply a necessary psychological function of an irrational character which has nothing to do with the question of the existence of god. The human intellect can never answer this question, and still less can it give any proof of god. Furthermore, such proof is altogether superfluous, for the idea of an all-powerful divine being is present everywhere, if not consciously recognized, then unconsciously accepted, because it is an arch-type. . . . Therefore I consider it wiser to recognize the idea of god consciously ; otherwise something else becomes god, as a rule something quite inappropriate and stupid, such as only an 'enlightened' consciousness can devise."

The supra-personal unconscious is more to Jung than just a reservoir of the powerful, primordial images of animals, gods, and demons. It is the only true reality in the whole mental world. Even the conscious personality, which he calls the "persona," is in his opinion nothing but an "arbitrary excerpt of the collective

psyche." "When we analyse the persona," he explains, "we discover that what seemed to be individual is at bottom collective, in other words, the persona was only the mask of the collective psyche. Fundamentally the persona is not real. It is a compromise between the individual and society as to the kind of semblance to adopt, what a man should 'appear to be.' He takes a name, earns a title, represents an office, and belongs to this and that. In a certain sense all this is real, yet in relation to the essential individuality it is only a secondary reality, a mere compromise formation in which others often have a greater share in the making than the individual himself."

It is not easy for the wilful collective psyche to make all the concessions which the construction of "a suitable persona" requires. Yet it consoles itself, probably with dæmonic laughter, for all its "self-sacrifices." It manages to hoodwink both the outside world and consciousness by being inwardly quite different from what it seems to be. "The persona, the idea picture of the man as he should be, is inwardly compensated by feminine weakness," Jung assures us gravely, "and as the individual plays the strong man in his outer rôle, he becomes inwardly a woman, the anima, because the anima is the opposite function to the persona." And woman has her unconscious paradox also. Her true inner character is masculine, known, appropriately, as the animus. Jung's faith in these interior, sexually mixed-up personalities is so boundless that he actually refers to a man, at least to that part of him represented by his anima as "she" and "her"; and to the animus character of a woman as "he" and "him."

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

Homo sapiens, as examined by the eyes of Jung, is undoubtedly a strange and baffling creature. When he seems the perfect extravert his attitude is really introverted ; when he appears most individual he is actually no more than a mask of the collective, universal psyche ; and whenever his masculinity is conspicuous, his true nature is basically feminine.

These true individualities are usually hidden, especially by extraverts, within the depths of the unconscious. But a man will, whenever he has the chance, " project " his anima upon any woman who catches his fancy ; first his mother, then his sweethearts, if he has any, and finally upon his wife. And as soon as he settles down to domesticity his anima begins to get the better of his persona. He is hardly back from his honeymoon before his true feminine nature becomes apparent and his disposition proves to be sentimental, childish, and dependent. With the husband giving away so weakly before his moody, womanish anima, the wife's masculine, opinionative animus arouses itself and begins to rule the household as surely as man's persona dominates the world of affairs. Marriage then seems to be primarily a union of unconsciousnesses, wherein the ostensibly mighty male becomes the slave of his outwardly meek and timid, but actually tyrannical mate.

If all this is rather confusing and also hard to credit, Jung offers comfort. He says that he does not expect many persons to understand his theory of animæ and animi, anyway. His chief reason for explaining it so often is to show " that there is nothing ' metaphysical ' about it, but that, on the contrary, it is a question of empirical facts which could just as well be expressed in

rational as in abstract terms." Surely, for many hundreds of years the adjective "empirical" has served psychologists well, but never quite so fantastically as when Jung applies it to his weird, unconscious ghosts.

CHAPTER VIII

THE EFFECT OF PSYCHOANALYSIS UPON AMERICAN PSYCHOLOGY

ONE needs only to compare the turbulent, passionate disclosures of Freud and Adler and Jung with the rigid dogmatism of Titchener, or the gentle epistemology of James, to understand why the psychoanalytical hypotheses have captured the popular imagination as no other psychological doctrines have ever done. These theories of man's veiled, unconscious nature did not strike American students of psychopathology with all the force of sheer novelty, however. Not only had Stanley Hall for many years referred knowingly to the dynamic psyche and the buried tree of mind ; for almost as long Morton Prince had been exclaiming over the wondrous things that could be accomplished by the human subconscious. And Prince's subconscious showed marked similarities to the psychoanalytical unconscious ; as well it might. They both had sprung from more or less the same origin.

European alienists had long harboured the suspicion that suppressed emotions had a large share in the production of hysteria. The French psychiatrists, of whom the two most famous were Charcot and Pierre Janet, had succeeded in tapping these hidden psychic disturb-

THE EFFECT OF PSYCHOANALYSIS

ances by means of hypnosis. Prince had got his theory of the subconscious directly from Janet; and Freud had studied hypnotic therapy under Charcot. But when he subsequently developed his technique of psycho-analytical transference, Freud discarded this earlier, cruder method and taught his patients to bare their concealed thoughts and desires while their minds were still awake and operating under their own power.

Prince, however, clung to hypnotism and also to crystal-gazing. And he used his concept of the subconscious to describe phenomena that were dearer to the American heart at the turn of the century than the darksome intricacies of sex. He employed it to explain automatic writing, table-rapping, hallucinations, and double and multiple personalities.

Morton Prince certainly knew the most interesting people. Not only ladies who became so adept at the self-taught art of automatic writing that they could compose and publish lengthy volumes of fancy prose of whose contents their conscious minds had no inkling; but persons who, under the influence of hypnotism or the powerful stimulus of crystal-gazing, discovered that they possessed several distinct, unsuspected, mutually antagonistic, alternating personalities. His most famous acquaintance, whom he called "Miss Beauchamp" and about whose diversified lives he wrote a fat and exhaustive volume, had not just two selves, like Jekyll and Hyde, but four. "The family" was the way Prince often referred to this widely dissociated young woman.

The four separate characters, which inhabited the twenty-three-year-old body of Miss Beauchamp at the

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

time she was a college student, were so varied that most of them received individual names. Her two most dramatic selves—Sally the Devil, and Christine the Saint—were so very different that they took violent dislikes to each other. Sally, Prince described as “an awful liar,” mischievous, bold, saucy, vivacious, reckless, boastful, and resentful of control. While Christine was unselfish, gentle, polite, patient, charitable, truthful, industrious, dignified, and over-refined. Sally called Christine a sneak and a stupid chump.

But the Devil’s antagonism toward her sainted other self did not spend itself on abusive words alone. She had more powerful and subtler means of making her patient life continually miserable. For Sally, while she existed in the subconscious, had the advantage of knowing a great deal of what the temporarily conscious Christine said and did and thought, and of controlling her actions to a great extent. And she used her privileges spitefully. She forced her better nature into all kinds of embarrassing situations. She made her borrow money which she could not repay, and then spend it for candy ; smoke cigarettes ; drink wine ; put her feet on the mantelpiece ; tell frightful lies ; and gossip about her friends’ husbands.

Then when Sally got her chance to be conscious, while Christine rested a while within the subconscious, she kept at her nefarious scheming. She would write scurrilous letters for her other self to read when she once again awoke to full consciousness. She would ravel the sweater she had just been knitting ; tear up her school work ; make cigarette papers of her carefully copied poems ; put spiders and snakes about

her room ; hide her money and postage stamps ; make compromising engagements for her ; sew up her clothes ; and bury her prayer-book in the salt-box. And Sally, as she slid back into subconsciousness once more, would laugh gleefully at Christine's consternation as she gradually regained her chance at consciousness.

In this manner did the glories of science satisfy the unlimited appetite of early twentieth-century credulity. Even as he wrote of these miraculous phenomena, Prince heard of the dark significance which in Vienna was beginning to be attached to the powers of the unconscious. But true to his age and country he denied them. "The impulses of instincts other than sexual," he maintained, "are sufficient to induce psychical trauma, insistent ideas, and emotion. To hold otherwise is to substitute dogma for the evidence of experience."

Americans within the last two decades have become less squeamish and less romantic than those for whom Prince wrote. They have turned from his chaste scenario of the unconscious to Freud's more sordid interpretation of it. Evidence of the eagerness with which they have accepted the psychoanalytic disclosures is to be found almost anywhere, not only in psychopathology but in a majority of the arts, though nowhere quite so pertinently as in the large symposium on *Sex in Civilization*, edited in 1929 by V. F. Calverton and S. D. Schmalhausen.

Its obeisance to Freud is low and complete. Its editors accept his definition of both the nouns in its title ; civilization in general, as well as sex in particular. Modern civilization, they say, "is psychoneurotic ; sick with the irremediable conflict between ideality and

actuality, or, in Freudian terminology, between the super-ego and the primordial, instinctive ego." Their symposium, they believe, "eloquently demonstrates" that the "cleavage-psychology" of modern man is "neurotic in every fibre," but is nowhere "so palpably in evidence as in his ambivalent attitude toward sex." And their contributors bear out their assertion rather nobly.

Havelock Ellis, in the introduction, remarks that Freud and his disciples "may not have established a single scientific fact. But it is possible . . . to criticise psychoanalytic doctrines at nearly every definite point, and yet to proclaim that Freud had effected a modification in human thought that will prove of permanent significance. Others had pioneered in the same direction, just as others had launched themselves into the air before Wright, but it is Freud who has taught the world that the sexual impulse—as it exists, that is to say, in our civilization—has even wider and deeper implications than has usually been suspected, and has shown how it may be regarded as a dynamic force which may change its forms, and often pass underground, while yet preserving all its potency."

And this is really a rather fine and generous tribute to the sage of Vienna. For one of the boldest of those earlier pioneers was a very learned Englishman by the name of Havelock Ellis. And explorers of a new territory are not always so magnanimous to recent rivals. The American contributors to the symposium seem, for the most part, unable to remember any forerunners at all and to agree with their editors that Freud and his followers "figuratively enough, rediscovered sex."

THE EFFECT OF PSYCHOANALYSIS

Not only do such writers as Bernard Glueck, Smith Ely Jelliffe, and E. Boyd Barrett never leave the subject of psychoanalysis and libido for more than a desultory paragraph or two, but most of the others manage to drag Freud into their discussions, whether they concern sex on a South Sea atoll or in a New England college, as expressed in modern poetry or exhibited by modern girls. Alexander Goldenweiser surmises that true insight into the sexual life of primitive people "will, of course, only come with a psychoanalytic treatment of the natives themselves."

To their partial espousal of Freudian doctrines must also be attributed the easy levity with which such professors as William McDougall and A. A. Roback treat this subject, which academic psychologists formerly approached only with extreme discomfiture. Roback begins his paper with this somewhat embarrassing whimsy: "We have travelled far in the exploration of sex regions since Eve ate of the fatal apple, and Adam knew Eve, and the Sodomites sought the angels, and Onan inaugurated the birth control movement, etc." And McDougall, shuddering over the idea of what would happen to the world if Mencken and Shaw, Ben Lindsey and Bertrand Russell ever have their iconoclastic way with it, conjures up this charming picture:

"Imagine the mother of the future under the reformed system. On sending her little girl to a party or a picnic, her prime duty will be to see that she is properly equipped with knowledge and material resources. 'Don't forget to call at the corner drug store, my dear. Ask the clerk for a packet of these new Wiggeley's *Saveceps*. Every-

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

one says they're so good. And have him tell you exactly how to use them.' "

Not until he was thoroughly convinced of the beneficent necessity of the psychoanalytic catharsis could this, the most prudish of all psychologists, have allowed himself to pen those playful words.

Perhaps the most significant paper in this whole wide survey of sex and civilization is the one contributed by Miss C. Elizabeth Goldsmith on Sex Consciousness in the Child. For in it we find abundant proof that psychoanalysis is already strongly entrenched in that rightful stronghold of academic psychology, elementary pedagogy, at least in that section of it which now goes by the name of Creative Education.

Her ready concurrence with Freud's conception of childish natures leads Miss Goldsmith to state: "I personally feel that some masturbatory activity at an early age up to approximately five years is healthy and even desirable in the naturally active type of child, that some experimentation and interest in the bodies of other children is perfectly normal and that generally sex experience at an early age uninhibited reduces the intensity of interest and the danger of morbid, complete absorption in sex at a later age."

In the school which she serves as psychologist, Miss Goldsmith and her staff of libido-enlightened helpers have ample opportunity to put her beliefs into practice. If a pupil has been taught by psychoanalytically ignorant parents to curb such healthy and desirable activities and to desist from such normal and interesting experimentation, his instructor sets to work to remove his

THE EFFECT OF PSYCHOANALYSIS

repressions. She follows him into the toilet and explains to him that she is more highly versed in such matters than his nurse, or even his mother, and that she knows "it will not hurt you to touch your penis."

A child's "eager questioning" is of supreme importance to Creative Education. There was, for instance, Ruth who said, "It's because I really don't understand what the father does to make the baby grow." Forthwith a teacher, whom Miss Goldsmith describes as "Miss H.," picked up one of the mice which are always so readily at hand in a really Modern School and declaimed :

"You see the father mouse has little seeds in him just as the mother mouse has in her. When they are ready to come out, they come in the same opening that the water comes through. They are also in a fluid, but it is not the same as the water which he passes every day, as any animal does. Now when the father mouse wants to bring these little seeds to the mother mouse he gets very close to her and the seeds pass out of the opening in his body to the little opening in her body which we call the vagina."

"Then Miss H.," Miss Goldsmith continues in the style of the New School bedtime stories, "asked Ruth if she had ever seen a little boy undressed. She said she had and she drew for Miss H. a little picture of the genitals, showing the penis and the testicles. Miss H. explained that when the father is grown up, that in the little sack the tiny father seeds are formed, then when he is ready to bring these to the mother he puts the penis in her vagina and the little father seeds come out

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

in the fluid which is prepared for them. Miss H. explained again that the fluid in which the father seeds are carried is not the same as the water which a person passes, although it comes through the same opening. She wanted to know how the father could let out one and not the other. Miss H. told her she didn't know that she could explain that definitely, but that he could let out the fluid in which the seeds are carried when he wished to bring it to the mother. . . .

"Ruth said, 'I think there is some sort of a society called the "Birth Control Society."' Miss H. agreed with her that there was and told her that they made an effort to teach people that they need not have more children than they could take care of. Miss H. did not give her any further details on birth control."

But though he is denied information about contraceptive technique the child of the newer education preserves a "lovely intensity towards all angles of life—questions of sex a direct motive force in harmonious relation to his feeling reactions." And to prove her assertion that the Nature Study Room of a Modern School is "a relaxed place . . . where children observe life and find satisfaction in answer to vital questions," Miss Goldsmith depicts the behaviour of a four-year-old boy who finds himself in this relaxed environment, but close to both Miss Goldsmith and a rabbit :

"Then suddenly, with great directness, a question shot at me : 'Is this the mamma or the papa ?' Then without waiting for an answer, an absorbed look at the genitals. 'Oh, a mamma ! Is she having babies ?' All vivid, interested, and yet casual.

THE EFFECT OF PSYCHOANALYSIS

“Further instance of this quick directness in a simple free environment is the story of a little four-year-old girl in this school, who having stayed in the toilet-room for a prolonged period was met by the teacher with an offer of help to assist with reluctant buttons. The little girl's shining face and eager response showed her complete naturalness. ‘Oh, Terry,’ she said, ‘I was so long because I'm getting so interested in my underneath.’”¹

Twenty years of exposure to libidinal theories have done more for the psychologists of America than to enable them, whether they teach in college or kindergarten, to talk about sex as freely and unblushingly as a political orator does about ideals. Upon the development of the science of mind the force of Freud's example is having the same effect that his psychoanalytical technique is supposed to have upon neurotic patients. It is beginning to remove its deepest and most serious fixation.

American psychologists when Freud lectured here in 1909 were inhibited indeed. Their scientific consciences were fixated upon a stooped little German with scraggly beard and steel-rimmed spectacles, whom William James had once described as a Napoleon without genius and whose name was Wilhelm Wundt. It was not by accident that the title of his *Psychologie* contained the adjective *physiologische*. Experimental physiology, Wundt had thought, was the perfect model after which scientific psychology should consciously mould itself.

¹ Goldsmith, C. Elizabeth: “Sex Consciousness in the Child.” From *Sex in Civilization*, edited by V. F. Calverton and S. D. Schmalhausen. 1929.

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

Though his pupils in America had been quick to discard many of his psychic theories, they had never forgotten this ideal he had glorified for them. They assumed the physiological postulate that the body conditions every activity of the mind ; they believed their first duty to be the collecting of exact psychic facts ; and they accepted the laboratory experiment as the only sure method of gathering them. The spread of Freud's theories and those of his immediate associates changed all that.

Though a practising physician and thus, presumably, a person who might be especially interested in the effect of bodily vicissitudes upon the none-too-stable mind, Freud has always been impatient of the custom of seeking organic explanations of mental phenomena. Dreams, he says, are not somatic but psychic processes. The whole nervous system he conveniently disposes of by calling it " an apparatus having the function of abolishing stimuli which reach it, or of reducing excitations to the lowest possible level ; an apparatus which would even, if this were feasible, maintain itself in an altogether unstimulated condition "—a definition which reduces this apparatus itself to the lowest possible level as the determiner of the complexities of psychic life. But Freud has relieved his followers of even more arduous burdens than the necessity of remembering the body when explaining the mind.

His disciples do not have to waste their time puttering around in dirty, cluttered laboratories, making observations with stop-watches in their hands. They are far less concerned with gathering exact facts than with interpreting the devious ways of the dynamic psyche. Freud himself once told them, " let us not underestimate

the use of words in psychotherapy." Since then words have flowed ceaselessly from patients to physicians and from physicians to an eager public ; and all of them have boosted some detail of analytic theory. Dr. A. A. Brill won international fame through the witticisms he garnered to illustrate Freud's thesis that the strangely distorted mechanism of dreams reappears in jokes.

The more imaginative lady analysts, moreover, have been able to demonstrate unconscious theories without recourse to words. Dr. Marion Kenworthy has added great force to Rank's dogma of the birth trauma by deciding that babies born like Cæsar show fewer of its dire effects. Dr. Beatrice Hinkle has given as fine support to Jung's hypothesis of the impersonal, collective psyche by an exhibition of slightly obscene drawings. These pictures were made by patients who had hitherto shown no artistic inclinations and who had no inkling of the deep import of their masses of umbilical cords, spermatozoa, breasts, and scrota until it was explained to them.

When a psychiatrist has exhausted the material obtained from patients and friends, he can always turn to literature—and not just to technical writing either, but to any words that have found their way into print. In his book *The Human Mind*, Dr. Carl Menninger has been able to quote the *Journal of the American Medical Association* and the *American Magazine*, the *U.S. Naval Medical Bulletin* and Ripley's *Believe It or Not*, the *Kansas City Star* and Benet's *John Brown's Body*, the *Book of Genesis* and *When We Were Very Young*, *Macbeth* and the *Kansas City Times*, the *Christian Century* and Cabell's *Jurgen*.

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

The older psychologists were not, of course, quite illiterate, and they often made excellent use of their general, and sometimes frivolous, reading in their most technical treatises. Hall once called James, somewhat sniffily, the most copious quoter among modern philosophers. And Hall, himself, as his *Adolescence* abundantly proves, was no shirker when it came to copying the words of others. But these more naïve, earlier psychologists, when they drew Jane Austen or Dickens, Marie Bashkirtseff or Mary MacLane into their psychic discussions, did so, if not just to make their volumes impressively long, then merely to illustrate some special point that they had already stated explicitly.

The way of the modern psychiatrists with history and literature is distinctly different. An up-to-date analyst writes authoritatively about famous characters, fictional or real, as though he has talked with them for many long hours in his own office and has thereby effected a revealing transference with them. He exhibits their complexes, their inhibitions, their psychoses, and their neuroses as though his own analytic skill had recently dragged them from them. Dr. L. Pierce Clark was able to depict Napoleon's inferiority complex graphically by reading some biographical notes made by his (Dr. Clark's) stenographer. Dr. Menninger disposes of the Corsican with more dispatch by simply calling him a schizoid type of personality. And into the same neurotic category, this psychiatrist, who finds scientific data as plentiful in a country newspaper as in a Hearst cartoon, blithely relegates Calvin, Whistler, Goldsmith, Edward Hickman, Erasmus, George the Third, Kant, Schiller, Judas

Iscariot, Chopin, Washington, Jesse James, Wagner, Rousseau, Robespierre, Spinoza, and Dickie Loeb.

The psychologists who habitually feel more at home in the laboratory than in the library have not remained immune to this urge to omniscience. Some of them, with their elaborate technique and their esoteric wisdom, have even surpassed the psychiatrists. Dr. Lewis Terman, the mental tester, has, with assistance from his pupils, neatly computed the exact Intelligence Quotients of hundreds of famous men from Copernicus to U.S. Grant ; and the general beats the astronomer by a mental score of 125 to 110. Louis Berman, the endocrinologist, has diagnosed the glandular upheavals of Roosevelt, Harding and Wilson, by carefully perusing their photographs. Indeed, so impressed are the more astute among the academic psychologists with the expansive glories of psychiatry that they are beginning to claim the credit for it. Professors Hollingworth and Poffenberger solemnly assert that psychoanalysis, whether interpreted according to Freud, Adler, or Jung, and in all "its various forms is but an elaboration of classical experiments of the psychological laboratory."

The professors, who now sweat away their days over their hybrid apparatus, do well to observe the psychiatrist as he leisurely discusses neuroses with his patients ; for there is the grave possibility that he has already taken their subject from them. Scientific psychologists have struggled nobly for more than fifty years to make the typical practitioner of their craft seem less the philosopher and more nearly like the physiologist. Yet to most of us he begins to resemble a mental doctor of public health, a benevolent but rather suspicious psychic

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

physician who takes the whole world for the clinic in which he demonstrates his theories. In other words, to the world outside the colleges, psychology now means neither empiric philosophy nor mental physiology, but psychoanalytic hygiene.

If this statement seems exaggerated, there is an easy way of testing it. Read over and see how familiar to you are the names of the academic psychologists which the American Psychological Association acknowledges as its leaders. The professors to whom since 1909, when Freud first came among us, that society has awarded the same "distinction" that it once gave to Hall and James and Münsterberg, and to Watson and Dewey when scientific psychology was still their chief concern, are :

Bird T. Baldwin.
W. V. Bingham.
Edwin G. Boring.
Harvey Carr.
Walter F. Dearborn.
Knight Dunlap.
C. E. Ferree.
Henry H. Goddard.
H. L. Hollingworth.
Walter S. Hunter.
Herbert S. Langfelt.
R. M. Ogden.
Rudolph Pintner.
Walter Dill Scott.

Daniel Starch.
Edward K. Strong, Jr.
Helen B. T. Wooley.
F. H. Allport.
Warner Brown.
June E. Downey.
Arthur I. Gates.
Arnold Gesell.
Truman L. Kelley.
W. R. Miles.
Joseph Peterson.
A. T. Poffenberger.
L. L. Thurstone.
L. T. Troland.

There are distinguished names upon this list, and names which for one reason or another have become well

THE EFFECT OF PSYCHOANALYSIS

known. Terman, Pintner, Goddard, and Bingham came into prominence with their mental tests during and immediately after the war. Poffenberger, Hollingworth, and Scott have basked in whatever popularity has accrued to applied psychology. Lashley at Chicago, and Dunlap at Hopkins, are still carrying on the sane traditions which characterized the Baltimore university at the time behaviourism was born there; Dunlap, through his wise counsel to his fellow-psychologists to stop their theoretical quarrels and keep to their experiments; and Lashley by his estimable research upon the neural mechanisms of animals.

Yet to the non-academic world which takes its psychology seriously none of these professors seems quite the mental oracle that such American spokesmen of psychoanalysis as Brill and Bernard Glueck and William A. White do. And this simple fact, that the appellation "psychologist" now fits doctors of medicine even more neatly than it does doctors of philosophy, constitutes a significant commentary upon psychology's more recent development. It means that not only the subject's emphasis but its very intent is changing.

So long as its growth was confined to academic laboratories, to lecture halls, and graduate seminars, the purpose of psychology, as well as its subject-matter, was fairly uniform. At times it resembled philosophy closely, at others it seemed more nearly like a natural science; but always it dealt primarily with normal minds, and its consistent aim was the observation, description, and explanation of such minds.

To-day the validity of this definition of psychology can be seriously questioned. If it is rigidly held to, then

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

it automatically erases from the roster of living psychologists the one name which is now written there in the blackest and boldest letters—the name of Sigmund Freud.

The Viennese psychiatrist has been hailed by his disciples as a philosopher, a scientist, a sociologist, a moralist, an artist. He has been derided by his enemies as a subtle blasphemer and a theoretical libertine. He may be several of these things, or none, or all of them. But whatever else he is or might be, Sigmund Freud is first and foremost a practising physician. And it is just because he was engaged in the technique of medicine before, and even while, he aspired to science and metaphysics, that he has been able to alter the meaning of psychology so profoundly ; for a practising physician, of necessity, sees the human animal differently from a biologist or a philosopher, and, therefore, from an academic psychologist.

A doctor of psychiatry comes in contact with normal minds, of course, but professionally he is not concerned with them. It is with the deranged and sick that he must work. He must observe these diseased souls, naturally, but if he would earn his fee he must do more than examine them. He must always seek to cure.

The theories of Freud—and his friends as well as his foes would do well always to remember this—are not built from the thoughtful observations of mature and intelligent graduate students, as the hypotheses of academic psychology are. The theories of Freud and of all his followers are founded upon the case histories of neurotic patients, of sick minds and deranged emotions. And these theories, unlike those which have sprung from

THE EFFECT OF PSYCHOANALYSIS

laboratory research, do not merely systematize their data. In the simplest item of psychoanalysis there is always a suggestion of therapeutic treatment. Its ultimate test is not whether it summarizes its facts correctly, but whether it is effective as a cure. Freudianism may form the basis of a new and true philosophy, it may in time be judged a science. But whatever else psychoanalysis is or chances to become, it will still remain a panacea.

It is the conviction of modern psychologists that they can cure sick souls, and improve well ones, that makes them seem such magical persons to their fellows. Facts are dull things and laboriously come by, and those about the mind are hardly more glamorous than those which concern matter. But since it first dreamed of a philosopher's stone, humanity has paid unceasing and blind homage to him who promises to relieve it at one stroke of both its ills and its mysteries. And always the most recent panacea has seemed the only right one. It is therefore not surprising to see such age-old quacks as graphologists and palmists, astrologists and numerologists trying to recapture some of their vanished glory by solemnly describing themselves as psychologists. In this way the mere witchery of the word "psychology" is directly though unwittingly responsible for the twentieth century harbouring superstitions at which the nineteenth was learning to laugh.

CHAPTER IX

MENTAL TESTS AND MENTAL HYGIENE

AN event which heightened America's interest in mental abnormalities, and eventually aided in the spread of Freud's ideas, was the publication in 1908 of a remarkable autobiography, *A Mind That Found Itself*. Its author was Clifford Beers, a young man who for three years had been violently insane. In it he described his delusions, his manias, and the horrors of his life in the various institutions where he had been incarcerated. But this book was more than an introspective story of one man's personal experiences. It was also an impassioned plea for the betterment of the existence of all similar unfortunates. So ardent was Beers's desire to make the life of insane patients more tolerable that he had soon imbued many influential persons—doctors, educators, philanthropists—with his own enthusiasm. With their help he was enabled in 1909 to establish a National Committee for Mental Hygiene.

There is really no inherent reason why mental hygiene and psychoanalysis should be synonymous, or even intimately related. Beers, himself, seems never to have been influenced by Freud at all. To one who has experienced at first hand the terrors induced by strait-jackets, solitary confinement, starvation, and brutal

floggings, the discomforts caused by suppressed desires and libidinous complexes must seem small things indeed. But the National Committee for Mental Hygiene had a broader aim than the mere "amelioration of the condition of the insane," as Beers had first intended. Largely on the advice of Adolph Meyer, its objective included not only the treatment of mental disease but its early detection and possible prevention. And since the alienists who were liberal enough to undertake the radical departure in preventive medicine were the very same alienists who were then so enthusiastic about the recent disclosures of Sigmund Freud, it is only natural that the growth of mental hygiene and the development of psychoanalysis should be very nearly identical.

During the first few years of its existence there was too much urgent, laborious, and objective work to be carried on in state institutions for the National Committee to give much thought to its broader programme. But when America entered the World War several hundred psychiatrists offered their services to the Surgeon-General's Office. As they examined thousands of drafted men to determine their mental status, the scope of mental hygiene expanded widely.

By the time the mental hygienists had become accustomed to their military duties, they discovered that another group of psychic students were also arrayed in khaki. The American Psychological Association had officially gone to war. The one hundred and twenty-five academic psychologists who had left their laboratories for the Surgeon-General's staff had not, however, become majors, captains, and lieutenants for the purpose of finding the maniacs among the soldiers, but, rather, for

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

detecting the half-wits. They were equipped with mental tests with which to measure the military's intelligence.

In the twenty-seven years since Cattell had given his psychological examinations to the students at Pennsylvania, and the twenty-four since Jastrow had demonstrated them at Chicago's Fair, mental tests had led a vicissitudinous existence. In the '90's they were in great official favour with the American Psychological Association and almost every year distinguished committees were appointed to review their progress. But their development was sluggish and interest in them died down abruptly when a thorough check-up proved that proficiency in sense discrimination and rote memory had small relation to scholastic ability—the faculty which the tests had been designed to estimate. Enthusiasm for mental measuring flared up anew, however, when America discovered the work of Alfred Binet among the school children of Paris.

Binet had begun his epochal research in 1895, and rather modestly. At that time all he wanted was a sure way of distinguishing bright pupils from stupid ones. He considered their teachers' judgment in the matter unreliable and sought an objective substitute for it. His first tests resembled those in use in America, and their results were equally discouraging. In 1905, however, he and his colleague, T. Simon, cast aside their earlier examinations and set out to estimate what they called "general intelligence." They did not define this capacity very precisely, but they collected a series of simple tasks which they claimed would measure it. The problems varied in difficulty and, according to the ease with which

MENTAL TESTS AND MENTAL HYGIENE

children of different ages could perform them, were considered tests of certain psychological years. Eventually they were grouped into a scale, which enabled Binet and Simon to designate the "mental age" of every child they tested.

That this scale was far from satisfactory to its inventors is shown by the fact that twice within six years they changed it radically. They made their final revision in 1911, and Binet died before he could determine its value for French schools, but not before his earlier scales had been enthusiastically received and diligently applied in America. By 1910, Dr. H. H. Goddard had classified the four hundred inmates of the Training School for Feeble-Minded Children at Vineland, N.J., according to the Binet-Simon tests, and their American success was assured.

In 1916, Professor Lewis Terman, after working on it for six years, produced the mental yardstick of the ages: The Stanford Revision of the Binet-Simon Tests. It was a twelve-page booklet containing examinations for most of the years from three to that which Terman designated as "superior adult." Its tests were so intricately standardized that every one of them represented a definite number of mental months, so that a child's psychic development could be gauged almost to the minute. Even more than that, Terman provided instructions for computing the youngster's "Intelligence Quotient." This is done by dividing his "mental age," as indicated by his examination, by his chronological age reckoned by the calendar, thus providing him with a single numerical rating which shows just exactly how smart or stupid he is.

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

The normal Intelligence Quotient, or I.Q., into which it has been conventionally abbreviated, ranges from 90 to 110. I.Q.s above the average soar through "superior intelligence," "very superior intelligence," to "near genius," and "genius" itself. Those below 90 fall through "dullness," "border-line deficiency," to "definite feeble-mindedness."

Some of the tasks which the Stanford Revision of the Binet-Simon Tests requires of its various "mental ages" are these :

The average three-year-old is able to :

Point to at least three "parts of the body" : its nose, its eyes, its mouth, or its hair.

Give the correct names of these three familiar objects when they are shown to him : a key, a penny, a closed knife, a watch, a pencil.

Repeat correctly one of these series of digits : 6-4-1 ; 8-5-2 ; 8-3-7.

Give his sex, that is, answer rightly to the question, "Are you a little boy or a little girl ?"

Know his last name.

Reproduce one of these sentences :

"I have a little dog."

"The dog runs after the cat."

"In summer the sun is hot."

As the tests get progressively harder as they pass from year to year, we find the six-year-old asked to :

MENTAL TESTS AND MENTAL HYGIENE

"Show me your right hand, your left ear, your right eye."

Name three of these coins when he sees them : a nickel, a penny, a quarter, a dime.

Count thirteen pennies that are shown to him.

Give an intelligent answer to two of these questions :

"What is the thing to do if it is raining when you start to school ?"

"What is the thing to do if you find that your house is on fire ?"

"What is the thing to do if you are going some place and miss your car ?"

Tell whether it is morning or afternoon.

Repeat correctly any one of these quotations :

"We are having a fine time. We found a little mouse in the trap."

"Walter had a fine time on his vacation. He went fishing every day."

"We will go out for a long walk. Please give me my pretty straw hat."

A seven-year-old should have among his accomplishments :

The tying of a bow knot.

The ability to copy a diamond with a pencil.

A knowledge of the days of the week.

The capacity for repeating five digits in order and three digits backwards.

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

A youngster of nine years should know among other things :

The date on which he is being tested.

Three words which rhyme with two of these : day, mill, spring.

Among the six tests of ten-year-old intelligence are these :

Giving the right answer to two of these questions :

“ What ought you to say when someone asks you your opinion about a person you don't know very well ? ”

“ What ought you to do before undertaking (beginning) something very important ? ”

“ Why should we judge a person more by his actions than by his word ? ”

Finding the absurdities in any four of these little tales :

“ A man said : ‘ I know a road from my house to the city which is downhill all the way to the city and downhill all the way back home. ’ ”

“ An engineer said that the more cars he had on his train the faster he could go. ”

“ Yesterday the police found the body of a girl cut into 18 pieces. They believe that she killed herself. ”

“ There was a railroad accident yesterday, but it was not serious. Only 48 people were killed. ”

MENTAL TESTS AND MENTAL HYGIENE

“ A bicycle rider, being thrown from his bicycle by an accident, struck his head against a stone and was instantly killed. They picked him up and carried him to the hospital, and they do not think he will get well.”

One of the six tests for fourteen years of brightness requires an intelligent answer to two of these questions :

“ A man who was walking in the woods near a city stopped suddenly, very much frightened, and then ran to the nearest policeman, saying that he had just seen hanging from the limb of a tree a— a what ? ”

“ My neighbour has been having queer visitors. First a doctor came to his house, then a lawyer, then a minister (preacher or priest). What do you think happened there ? ”

“ An Indian who had come to town for the first time in his life saw a white man riding along the street. As the white man rode by the Indian said, ‘ The white man is lazy : *he walks sitting down.*’ What was the white man riding on that caused the Indian to say he ‘ walks sitting down ’ ? ”

If you are an adult (that is over sixteen years old) and your intelligence is average, a few of the things you should be able to do are :

Repeat one of these series of six digits backwards :
4-7-1-9-5-2 ; 5-8-3-2-9-4 ; 7-5-2-6-3-8.

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

Explain the difference between three of the following pairs of abstract words :

Evolution and revolution.

Poverty and misery.

Character and reputation.

If your intelligence is of the calibre of the "superior adult" you can do many things, one of which is solving this "ingenuity test" :

"A mother sent her boy to the river to get seven pints of water. She gave him a 8-pint vessel and a 5-pint vessel. Show me how the boy can measure out exactly 7 pints without guessing at the amount. Begin by filling the 5-pint vessel."

Barely a year after the Terman revision was published the United States went to war. The psychologists saw in the situation a glorious opportunity to apply their tests not to recalcitrant school children, humoured by unscientific parents, but to millions of grown men being disciplined to order. The very month in which hostilities were declared the American Psychological Association, which then had as its president Dr. Robert Yerkes, an ardent tester and a recent Binet-Simon reviser, "appointed numerous committees to study the situation and prepare for action. . . . It was believed by psychologists assembled in council," according to Dr. Yerkes's own report, that they "should be able in the military emergency to render invaluable assistance to medical

MENTAL TESTS AND MENTAL HYGIENE

officers by supplying reliable measures of intelligence." As a result of this belief many a prominent professor soon had the privilege of writing after his Ph.D. and LL.D., Major, Surgeon-General's Office, Washington, D.C.

But the committee which met at Vineland for the purpose of supplying the reliable measures of intelligence was immediately confronted by a serious problem in simple mathematics. All the Binet tests had to be given to one subject at a time, and a thorough examination consumed about two hours. The Army recruits were expected to run into millions, yet it was then doubtful if even a hundred psychologists could be spared from their teaching jobs for the patriotic purpose of measuring their intelligence. Elementary arithmetic indicated that if every recruit must pass a psychological examination before being assigned to his military duties, the Germans might be in Paris, and well on their way to Washington, before a regiment could be organized. The problem was quickly solved, however, by the discovery that a student of Terman's, Arthur Sinton Otis, had, during the preceding year, assembled a series of tests which could be given simultaneously to great masses of subjects.

With the Otis "batteries" (by then the very terminology of mental measuring had become militaristic) as a model, the psychological personnel went into action. Soon they had produced two "group tests"; the Army Alpha for those who could read and write, and the Army Beta for illiterates; and conscientiously applied them to 1,726,966 incipient soldiers.

The Army Alpha, of which some thirty adaptations

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

have subsequently been made, is, like Terman's test, in the form of a booklet. But while with the individual examinations the tester keeps the booklet in his own hands and writes down in its appropriate blanks the testee's answers to its queries, in group testing the subject is given his own pamphlet and told to follow the directions printed in it. In a sense, then, he really tests himself, his examiner merely checking up on his replies and scoring them. The problems of the group tests are explicit and rather simple, as these samples from them prove :

Information Test :

Underline the correct word :

Euchre is played with dice, rackets, cards, pins.

The Delco System is used in plumbing, filing, ignition, cataloguing.

Coral is found in trees, reefs, molluscs, mines.

John Wesley was famous in literature, science, war, religion.

Directions Test :

Cross out the " g " in tiger.

Put a dot below this line———.

If Decoration Day comes in winter write the word " No." If not, write the word " Yes."

Write the letter which follows the letter which comes next after C in the alphabet.

MENTAL TESTS AND MENTAL HYGIENE

Disarranged Sentences Test :

Underline "true" or "false" according to the meaning of the disarranged sentence :

will live bird no forever true . . . false
always sleeplessness clear causes a conscience
true . . . false.

Because of the rapidity with which they could apply their group tests and the ingenuity with which they could analyse them, the mental measurers emerged from the war with a slight edge on the mental hygienists. It is true that there were more psychiatrists in the Army than professors, that they held relatively higher ranks, and that they had effected the discharge of more soldiers for lunacy than the psychologists had done for imbecility. But the testers got the publicity. Being highly versed in the art of statistics they were able to cast the results of their measuring into tremendously impressive charts and graphs and tables, and to make them prove astonishing things about the mind of America.

A final reckoning of the test scores showed that the average mentality of all the drafted men equalled that of a child exactly thirteen years and one month of age. This fact received wide publicity and various interpretations. It was generally accepted as proving the common soldier abnormally stupid. But the testers themselves found a different significance in it. They thought it indicated that psychic maturity was reached by thirteen years. Intellectually, then, a lad just past twelve should be the peer of his father and grandfather.

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

This interpretation required a revamping of all the older classifications of feeble-mindedness.

Hitherto the mental age of a moron had been thought to range between nine and twelve years. If this were really true, then according to the mental tests forty per cent of the drafted men were morons. They were all allowed to qualify as normal, however, by the simple expedient of reducing the moron's mental age to from eight to ten years. And imbecility and idiocy were forced to take a proportionate step downward.

A far simpler explanation of the thirteen-year-maturity-level would seem to be that something was wrong with the tests themselves, and radically wrong. There is as yet no convincing evidence from other sources, either psychological or biological, that psychic development must stop short at thirteen years. It would appear just to be getting well started at adolescence.

The mental testers, however, were not done with their computations when they had decided upon the mental age of the average adult. They next estimated the relative brilliance of the different divisions of the Army. They discovered, curiously enough, that except for dentists and veterinaries, doctors were the stupidest soldiers wearing uniforms. The medical corps had an average I.Q. of 77, which was lower than that of the quartermaster corps and far beneath the sanitary corps. Whatever the significance of this may be, it is interesting to remember that, though relatively few in number compared to surgeons and stretcher-bearers, the mental testers as well as the mental hygienists were all members of the Surgeon-General's staff.

MENTAL TESTS AND MENTAL HYGIENE

It was some time after the Armistice before all these psychic estimates were complete. And while they were still industriously computing their averages, and the newspapers printing them, the mental measurers saw visions of an everlasting happy orgy of testing stretching out before them in the future. As late as 1923, Professor Rudolph Pintner felt confident that before long they would be estimating the mean I.Q.'s of such typical personages as these: "The Voter; the Applicant for a Marriage Licence; the Candidate for Public Office; the Civil Servant."

But such predictions have not yet begun to come true. Glory had really been stripped from the testers when they hung up their uniforms. Since the war, mental tests are given, as they were before it, to defectives and delinquents. They have been adopted by some industries as an aid to selecting employees. But their only really noticeable expansion has been in the educational institutions where their inventors were teaching before they heard the call to military service.

If mental testing in America reached its zenith during the World War, it was not until after the Armistice that mental hygiene really came into its own. So long as its surveys and researches had been confined to State institutions, the National Committee had small chance of demonstrating its passionate belief that "the mental hygiene movement is of vital concern to *everybody*." But with statistics to prove that thousands of apparently normal soldiers were in desperate need of psychiatric treatment, the mental hygienists were quite ready to assert that their advice would be helpful in "the

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

practical management of mental problems in all relations of life." At present they are steadily putting this conviction into practice.

Besides the National Committee, there are now mental hygiene societies in the majority of the United States, in most of the countries of Europe, in South America and South Africa, in Canada, Australia, and Cuba. And the current sponsors of this psychiatric approach to human living are not only liberal philanthropists and professional psychiatrists, but college professors and kindergarten teachers, Catholic priests and Protestant ministers, social workers and politicians, lawyers and business men. And as mental hygiene expands geographically and professionally, the categories of mental maladies with which it deals increase proportionately.

In the summer of 1924, at the trial of Richard Loeb and Nathan Leopold, Jr., for the murder of Bobbie Franks, the mental hygienists had a dramatic opportunity for demonstrating to every American who could read his newspaper that insanity was not a positive, definable state, such as the law had always assumed it to be, but a mental enigma about whose conditions even the most famous of alienists could not agree.

Criminal trials seem always to have held a special fascination for students of psychic vagaries. Münsterberg's *On the Witness Stand* was even more popular some twenty years ago than Prince's *The Dissociation of a Personality*. But that treatise, like the various lie-detecting tests it has inspired, has never perceptibly modified legal procedure. Rather, it has remained a shrewd commentary upon that procedure, an exposition of the mental fallacies inherent in all the solemnly

MENTAL TESTS AND MENTAL HYGIENE

sworn-to testimonies upon which culprits are freed or fined or imprisoned or sentenced to be killed by juries of their peers. So the attitude of academic psychology toward the law has always been that of a realistic critic, a sceptical outsider.

Psychiatry's relation to jurisprudence, especially to trials as serious as those for murder, has been more intimate, and necessarily so. One of the most important points to be decided about a capital crime is whether the person accused of committing it was sane enough and intelligent enough to understand the enormity of his act. And who could settle this delicate question better than an alienist, who must know how to detect abnormalities before he sets about to cure them? It has accordingly been many years since the presence of a competent alienist before the Bar has seemed at all unusual. The trial of Leopold and Loeb, however, was the first in which the arguments of psychiatrists received as much publicity as those of lawyers.

In that famous case the State of Illinois employed five reputable and esteemed Chicago physicians, Dr. H. Douglass Singer, Dr. Hugh T. Patrick, Dr. Archibald Church, Dr. Rollin T. Woodyatt, Dr. William O. Krohn, to examine its two prisoners and report upon their sanity. All agreed that, while the two young murderers might not be exactly average youths, they both knew just what they were doing when they lured the school-boy into their automobile and carried him to the lonely spot where a pair of incriminating spectacles was subsequently found. According to this testimony, both Leopold and Loeb were legally sane.

But the question of their sanity was not thus easily

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

disposed of. The attorneys for the defence had already produced five different psychiatrists, equally reputable and still more famous, Dr. William A. White, Dr. Bernard Glueck, Dr. H. S. Hulbert, Dr. Karl M. Bowman, Dr. William A. Healy. They had all examined and diagnosed the prisoners, and it was upon their joint testimony that Clarence Darrow based his impassioned plea for the dismissal of his clients. Hulbert declared that the internal secretions of both Leopold and Loeb were awry. Glueck attributed to Loeb a "split personality," to Leopold a "paranoid psychosis," and to both of them a "king and slave phantasy." Healy maintained that the Franks child's death was "the result of diseased motivation," while White solemnly swore that the twenty-year-old Loeb was "still a little child talking to his Teddy bear." All five alienists for the defence concurred in the opinion that both Leopold and Loeb were too abnormal to be held responsible for their crime, that they were, therefore, legally insane.

This medico-legal battle at Chicago seems to have set a precedent for all subsequent psychiatric testimony. In no other trial have the testifying alienists received the same great publicity, but in all of them their testimony has been similar. Those employed by the prosecution have found its prisoners to be of sound mind ; those employed by the defence have found them mentally deranged.

Newspaper readers, of course, relish a single, dramatic murder, of which they can read every sordid detail and understand each human motive, even more than they do the murder of hundreds of thousands by poison

gas and machine-guns, the reasons for which even the statesmen who instigated it cannot make intelligible. Thus, the American public has become better acquainted with the testimony of mental hygienists in its court-rooms than with mental testers in its military camps. And about this expert legal procedure the American public has become decidedly sceptical.

The language of law is, of course, so notoriously complex, and so filled with stilted phrases and obsolete words, that it is almost incomprehensible to most of us. But about insanity legal terminology is very nearly concise. It holds a man sane if at the time he commits his crime he is sufficiently in possession of his faculties to know the difference between right and wrong. Given that definition of sanity, almost any man thinks that he could decide upon the mental status of almost any other man. Therefore, most men find it hard to understand why the psychiatric authorities find the task so difficult. Especially do they wonder why the testimony of an alienist is always favourable to the lawyer who employs him.

The mental hygienists, however, do not share the public's scepticism about the disagreement of their fellow-members when they are called into court. In the very disparity of their testimonies they see a reason why the disposition of convicted criminals, indicted criminals, potential criminals, and even of those persons suspected of misdemeanours, should be taken from under the control of lawyers and judges and juries, and turned over to committees of psychiatrists. These views are held not only by the mental hygienists who are themselves practising alienists, but by such distinguished

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

members of allied professions as Professor S. Sheldon Glueck of the Harvard Law School and Dr. Harry Elmer Barnes.

If the line between normality and abnormality, sanity and insanity, is so finely drawn that even those who are best equipped to detect it cannot agree upon its exact location, assuredly, then, say the mental hygienists, there is no real demarcation at all. Consequently, all offenders against the laws of the country, even, perhaps, those of us who are somewhat disrespectful towards Mr. Volstead's legal masterpiece, must belong to that large and anomalous mental category which includes all of the "maladjusted personalities." Society for its own good should, accordingly, cease its attempts to put its Al Capones, its Gerald Chapmans behind iron bars or into electric chairs. Instead, it should recommend them to the proper psychic clinic or mental hospital, where a selected group of alienists could uncover their complexes, phantasies, and paranoidal tendencies, and prescribe the fitting treatment.

But mental hygiene is not concerned entirely, at present not even primarily, with mental maladies serious enough to be diagnosed as legal insanity. According to its devotees it "needs to be introduced into every home." In case you consider your own home normal enough to survive for a while without the benefits of psychiatric betterment, just glance at a few of the phenomena which Dr. C. MacFie Campbell, Professor of Psychiatry at Harvard, can describe as "mental disorders" :

Headaches.

Backaches.

MENTAL TESTS AND MENTAL HYGIENE

Unsociability.
Marital incompatibility.
Sleeplessness.
Suspensions.
Misinterpretation.
Stealing.
Distrust.
Alcoholism.
Aggressive social attitude.
Discontent with one's environment.
The feeling of fatigue.

If you admit that all of "these familiar reactions" may be true mental disorders, approaching more or less closely to real insanity; if you agree that modern psychiatry can and should cure them, then you can raise no logical argument against mental hygiene's complacent statement that it is of vital importance to *everybody*.

It is already busily demonstrating its importance to education, to religion, to business, and to all domestic relations. In the realm of pedagogy only the more advanced of the progressive schools, such as the Walden and the Lincoln School of Teachers College, have accepted mental hygiene unconditionally; but such widely different institutions of learning as the Military Academy at West Point and the Tom Tit Nursery School in Brooklyn are learning the advantages of the "psychiatric approach to education."

The psychiatric approach to religion is also making advances. Though to many pious souls the very name of Sigmund Freud is anathema, the more astute among

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

churchmen, both Catholic and Protestant, are beginning to divine that intimate relation between erotism and religion which Stanley Hall first noted a full half-century ago.

In 1928, the Mental Hygiene Quarterly printed a long article by the Reverend Pryor McN. Grant, Padre of Toc H, New York City, on the "Religious Values of Mental Hygiene." Because mental hygiene concerns itself so largely with "the libidinal drive or love life," he explained, it and religion "face in exactly the same direction. They are, indeed, aspects of one thing, and the logic and practice of each lead toward the same goal." But as the Padre continued to speak of the libidinal drive in highly spiritual terms, the mental hygienists, themselves, were perhaps a little baffled by his meaning. But a few months later Dr. Harry Emerson Fosdick, the intellectual giant of the modernists, described to the National Committee just how the Freudian technique could be successfully invoked to cure lack of faith :

"A woman came into my office some time ago saying she had lost her faith in God. I said, 'All right, go on and tell me about it.' She talked for about three minutes on how her theology had gone all to pieces. I said, 'Tell me that love story of yours.' She said, 'What?' I said, 'Tell me your love story. Of course I may be wrong. It may be you have lost your mother, but I am betting it is a love story.' She said, 'What do you mean?' I said, 'What do you take me for? A fool? Do you think that you can talk as you have about lost faith in God without revealing that emotionally you

MENTAL TESTS AND MENTAL HYGIENE

are all messed up? Now you have had a love affair.' She said, 'All right, I will tell you.' "

In applying their technique to the practical affairs of commerce, the mental hygienists claim to be perfecting an entirely "new art" which they describe as "Industrial Psychiatry." No less a personage than Professor Irving Fisher is credited with the coinage of the term. But he merely suggested industrial psychiatry as a possible antidote for the Red Menace of 1920. It was Dr. E. E. Southard, then conducting research for the Engineering Foundation of New York, who first prophesied to employment managers that "psychiatric procedure" would some day solve all their difficulties. And as psychiatrist to Macy's department store, Dr. V. V. Anderson, past medical director of the National Committee for Mental Hygiene, is valiantly endeavouring to make this rosy dream come true.

American psychology has never, of course, been wholly indifferent to the proper conduct of practical affairs. Among Wundt's own pupils, only Titchener contended that science is, and must be, essentially impractical. As early as 1896, Cattell had decided that "science for the sake of science" was "in danger of dilettantism." By 1912, Münsterberg had discovered that "the glorious advance of the natural sciences became at the same time a triumphal march of technique," and had proposed that psychology join the technical parade. Yet when these earlier psychologists, drilled as they had been in the realism of the laboratory, turned to practical problems, they still looked at them with the objective, fact-searching eyes of the man of

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

science, not with the rapt gaze of the mental healer. Cattell's first mental tests were designed to distinguish slow readers from rapid readers, sluggish reactors from those who were prompt, and poor memorizers from good ones. They offered no general panacea for making the slow quick or the dull bright. Again, when Münsterberg demonstrated to business the boons to be derived from his science of psychotechnics, he did so through experiments which, so he said, would pick accurate phone girls, careful motormen, and sea captains who were emotionally stable. Psychology, he concluded from such research, could increase the efficiency of industry by eliminating from it those unfit to engage in it.

Applied psychologists, except when they have in turn been influenced by psychiatrists, have stubbornly stuck to these objective standards. Hollingworth and Poffenberger assert that it was "the exigencies of the World War" which drew applied psychology "into service on a national scale," and proved it to be "a dignified, productive and vigorous activity." Yet for what specific purpose were the Army tests, to which they refer, devised? For the detection of drafted men too stupid even for cannon-fodder. And the application of these military examinations to the problems of civil life is supposed to serve the same eliminative function, that of weeding out stupid scholars from the colleges and inefficient employees from business.

Dr. Anderson, speaking for himself and his comrades in mental hygiene, expresses both scorn and pity for the "employment people who expect a simple intelligence test to select good employees for them, as though the

matter of cleverness or smartness was the principal determining factor in work success." There are, he believes, "issues far more complex than the mere possession of abilities to perform the task required,—issues that are only understood through a well-rounded, thorough-going clinical study."

And that is precisely the kind of study that Dr. Anderson, assisted by several fellow-psychiatrists and a number of "psychiatrically trained social workers," is inflicting upon the thousands of persons now working for, or hoping to work for, Macy's, persons whom he consistently describes as "patients." Each prospective employee must submit to the "art and science of the psychiatric interview." And every retained employee, no matter the length of his successful service, must suffer a "persistent inquiry" into his "home life, interests, habits, amusements, recreations," and similar private affairs which, until the advent of industrial psychiatry, were considered nobody's business but his own.

Even as they aid the various professions, the mental hygienists are not indifferent to questions of general conduct. And if one would realize how far mental hygiene has progressed from its first simple surveys among the insane, the defective, and the delinquent, one should study the recent research of Dr. G. V. Hamilton. Not amid the barren discomforts of Sing Sing, New Bedford, or Matteawan, but in the sumptuous elegance of a Park Avenue office, this famous investigation was staged. Not the strait-jacketed insane, but the fashionable fringe of New York's *litterati* were its subjects. From a picked group of one hundred couples, and from

PSYCHOLOGY : SCIENCE OR SUPERSTITION?

one in which the wives far outstripped the husbands in the number of their extra-marital love affairs, Dr. Hamilton was enabled to discover and present to the world the answer to *What Is Wrong with Marriage?*

CHAPTER X

THE BEHAVIOURISM OF JOHN B. WATSON

AS curiosity about the unconscious mind began to supplant preoccupation with the conscious ; as psychiatrists began to usurp the authority of academicians ; as clinics vied with laboratories in supplying the raw data of human nature, the whole tenor of American psychology changed. Of all the more indirect and less predictable results of the great Freudian emancipation, none was more remarkable than the change which came over the professional personality of Dr. John Broadus Watson.

The first behaviourist has never, of course, let himself be psychoanalysed ; nor has he, even for a moment, subscribed to the subliminal doctrines of Vienna. "The scientific level of Freud's concept of the unconscious is," in Watson's opinion, "exactly on a par with the miracles of Jesus." And should anyone by mischance construe this comparison as a compliment, he adds with explicit bluntness that the psychopathologist just "doesn't know what he is talking about." Yet for all their ignorance, the psychiatrists have served the behaviourist well. Their practical success, if not their theoretical beliefs, freed him of the last vestiges of the inhibition which had curbed his academic years and which he once

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

described as "the habit of assuming a repressed attitude when talking of his work before orthodox psychologists." When this impediment was finally effaced, there emerged in New York City a triumphant new behaviourism with lofty ambitions wholly unsuspected in the laboratory science which Watson had once proposed in Baltimore. The debt this latest behaviouristic doctrine owes to Sigmund Freud, its author, himself, has indicated.

"A few years ago in psychology," wrote Watson in 1928, "we heard only of Freud and his method, psychoanalysis. With this method his loyal subjects assured us they could solve all psychological problems. To-day when every shop-girl will tell you of her dreams and complexes, psychoanalysis is no longer a topic of interest in drawing-room conversations, not because anyone is particularly shocked by the discussion but rather because its novelty has gone.

"So it is with all new movements in scientific fields. There was possibly too little science—real science—in Freud's psychology, and hence it held its news value for only a relatively brief span of years.

"At this moment there is a new psychological claimant for public interest. During the past ten years it has been threshed out in university circles ; now the newspapers are beginning to feed it to the masses, but still in broken doses.

"This contestant is behaviourism."

Watson does well to mention Freud as he offers behaviourism to the masses, for until psychoanalysis captured the popular imagination, there was no public interest in psychology. Watson's first auditors were, of necessity, orthodox psychologists, and the behaviourism

THE BEHAVIOURISM OF JOHN B. WATSON

which was threshed out in university circles differed essentially from that which now feeds the masses.

Watson has been—not excepting even Stanley Hall—the most conspicuous revolté in the whole course of American psychology. In 1912, however, when his radical views were first expressed, he had no comment to make upon prosperous psychiatrists, discussed in drawing-rooms and read by shop-girls. If he even knew of Freud at that time, he apparently had not yet perceived in him a formidable rival, for he mentions him nowhere in his earlier manifestoes. The psychologists from whom he first revolted and to whom he flung his challenge, that unless they made their subject more exact he would found a wholly separate and independent science, were those same introspectionists whom Hall, ten years earlier, had accused of fostering “a bankrupt psychology without a soul.” They were the psychologists of the colleges, still teaching the views of mind which had been handed down from Wundt through Titchener and Münsterberg, and tempered with a little of the wisdom of practical living by James and Angell and Dewey. If, when they did not accept his challenge as readily as he had hoped and were not as cordial to his overtures as he expected, Watson turned upon them and accused them of knowing nothing about the consciousness they claimed to study and of being little more than theologians in disguise, these academicians had only themselves to thank. The earliest version of behaviourism was, after all, but the logical result of their precepts and examples—rather, of the discrepancy between their precepts and their examples.

For more than twenty years the orthodox introspec-

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

tionists had written and had taught their pupils : experiment, experiment, experiment, and trust nothing but the results of experiment, stick to the business of gathering facts, and leave their explanation to the biologists and their interpretation to the philosophers ; concentrate upon the simpler problems, and the broader, subtler, deeper questions will eventually answer themselves. For over twenty years they had taught this, and after they had reviewed and summarized and epitomized all the data of their laboratories, explained them by charts and graphs, and illustrated them with complicated apparatus, they had turned aside and discussed personality and meaning and mental attitude—subjects about which there was often a conspicuous lack of objective data. For twenty years their followers had listened to them respectfully, had dutifully repeated the necessity of exact results, many of them had done a little experimenting of their own, and then they, too, had paused and wondered, and had speculated about dreams and thoughts and desires and talents and emotions and capabilities. And the reason was really quite simple. However great may be his respect for science in the abstract, a student turns to psychology rather than to physics or astronomy or chemistry, because of an incurable curiosity about the human mind and, also, because he has a fair share of that uniquely human trait of wishing to project himself imaginatively in the lives of others. Sensations and perceptions and all the other abstractions of the introspectionist's laboratory may be admirably scientific, but they can never satisfy completely an urgent curiosity or the possibilities of the human imagination. So, despite their protestations and

THE BEHAVIOURISM OF JOHN B. WATSON

their warnings, psychologists have always hankered after solving, personally, the larger problems.

Then one fine day there came to the University of Chicago a young man who, if he did not totally lack the disconcerting tendencies to imaginative projection, at least did not possess it to a dangerous degree. He read what his predecessors had written, he heard what his colleagues taught, he saw what they were doing. The disparity was apparent.

The older psychologists had done more than preach experimenting. They had indulged in a bit of prophesying on the side. Titchener had foreseen the day when all the data of psychology could be expressed in terms as mathematical as those of a physical equation. James had predicted the coming of a psychologist who would make his science as exact as modern chemistry. By 1914, John B. Watson may have believed that the predestined day had arrived and that he was to be the psychical Lavoisier.

At that time Watson had not discovered that "real science" must always have "news value"; in consequence, the behaviourism which he first expounded was much more modest than that which he preaches to-day. It was in the main a summary of all the data of conventional psychology, both human and animal, which could be stated in purely objective terms. In 1914, Watson did not declare airily, as has since become his custom, "The behaviourist finds no mind in his laboratory, sees it nowhere in his subjects." He did not then, as it now pleases him to say that he did, challenge his psychological elders in these words: "You say there is such a thing as consciousness, that consciousness goes

on in you—then prove it.” He did not defy them then ; he came nearer to asking a favour of them. “ If you will grant,” he began, “ the behaviourist the right to use consciousness in the same way that other natural scientists employ it—i.e. without making consciousness a special object of observation—you have granted all that our thesis requires.” He did not want to deal with consciousness directly, because he felt that introspection was a clumsy, inaccurate, and always fallible method of solving the problems of mind. He set out to prove that there was a better and more reliable way of performing the very same experiments that the introspectionists were still labouring over. After a fashion he did prove it.

There was, first of all, sensation, which most psychologists—these many years since James had questioned its importance—accepted as the basal element of mind. In sensation the most careful and minute work had been done in the field of vision. Very well, said Watson, produce your visual experiments, and you will find that the behaviourist has already performed most of them on animals with highly satisfactory results. It had been assumed that detailed introspection was necessary to such work ; but obviously cats and dogs could not describe what they were seeing.

Instead, the behaviourist obtained a record of what they were doing. With human subjects, Watson continued, there was no problem which could not be attacked in this same direct manner. An introspectionist and a behaviourist might work in identical experiments toward the same result, but where the former’s report, dependent on the subject’s thoughts about his own mental processes,

THE BEHAVIOURISM OF JOHN B. WATSON

would be discursive, literary, subject to human interpretation and individual prejudice, that which recorded only his actions and his spoken words would be terse, objective, and subject to the accuracy of mathematical treatment.

In the beginning it was really as simple as that. As he did for sensation, Watson declared he could do also for image and affection, indeed, for any process which the psychologist could bring under experimental control—even thought itself. Boldly he concluded: "There is no field which an introspective psychology legitimately can call its own." His proposed method of attacking most of the subtle phases of the mind is no longer of importance; for the behaviourism of the laboratory, which began life with such a wholesome lustiness, did not survive long enough to accomplish many of them. While still in its robust infancy, it was deprived of the experimental atmosphere which was essential to its growth. With three subjects, however, it did come to grips in its youthful, vigorous way. They were instincts, thought, and learning.

Ever since Darwin had described the characteristics which the members of species inherit from their ancestors, it had become almost an academic convention that each psychologist should compile his own particular roll of instincts. Every list was different, and most of them had been arrived at, as their very disparity proves, not by arduous experimentation but by the much pleasanter task of sitting quietly and wondering which seemingly human traits might have been received intact from the dim simian past. One man's conjecture was as good as another's, of course. Watson's, however, was consider-

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

ably better. He had spent many months among the noddy and sooty terns of the Galapagos Islands, studying at first hand the native behaviour of those charming creatures. The most remarkable thing about this bit of research is that it did not prompt its experimenter to flout the list-compiling convention. In 1914, Watson was still confident that in all vertebrates we should expect to find, and that we do find, the following types of instincts :

(1) Methods of locomotion ; (2) methods of obtaining food ; (3) shelter ; (4) rest, sleep, play, etc. ; (5) sex ; (6) defence and attack ; (7) special forms of instinct, such as migration and mimicry ; (8) vocalization ; (9) unclassified and non-adaptive but complex and complete acts, such as strutting, dancing, elaborate nodding ; (10) unclassified and non-adaptive, but random and abortive ; (11) individual peculiarities in response, such as boldness, individual tricks of hands, ambidexterity.

This roster of the complex, inherited traits may seem slightly prejudiced in favour of the Galapagos tern, but at the time he composed it, Watson did not doubt that counterparts of all of them could be found in a normal man.

If the problem of instincts had occupied psychologists for decades, that of thought had absorbed them for centuries. Early in the twentieth century, however, the interest in ideation had flared up especially brightly because of a controversy which soon took on the repetitiousness and the technical obscurity of a never-ending legal bout. Its purpose was to determine the existential

status of "imageless thought." Professor Robert Woodworth was chief spokesman for those idealists who contended that thought was altogether ephemeral and unanalysable. He and his associates produced reams of evidence which they claimed to be unimpeachable and to prove that a man could sit and think and that pure, immaterial thought would occupy the entire focus of his consciousness. There would be, of course, cerebral activity accompanying this thinking element, and there might be, they admitted, vague images somewhere within the dimmer recesses of the thinker's mind, and even gross sensations in his body; but these baser processes were unrelated to the thought itself. That was unique, invisible, inaudible, intangible, and all but indescribable.

Titchener and his cohorts were just as positive that it was not. They brought forth evidence which had been as often verified and which showed that the purest, loftiest, most abstract thought sprang from a lowly origin; if its essence was not always a palpable sensation, then it was an image which was only its vaguer copy.

This was a dispute which Watson could not avoid; but he came into it fighting on his own. He denied the pure-thoughts, but he did not tarry in the image-sensation camp either. He went Titchener several better when he declared flatly that the noblest, highest thought was nothing but a gesture or a spoken word. The word was often pronounced silently, he conceded, but always the larynx moved. He even went so far as to predict that "if we could find a case where a man suddenly lost his laryngeal apparatus without any serious injury to other bodily mechanisms . . . there would be, or ought

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

to be, a serious limitation of this man's thought processes."

Thus after several millenniums of the attempt to assign thought to the brain, and after several centuries of general acceptance of this location as a fact, Watson shifts it once more, not back to the heart as in Aristotle's theory, nor yet to the whole body impartially, as the early theologians would have had it, nor even to Descartes' pineal gland, but to the vocal cords.

As a topic of psychological interest, learning was almost as old as thought. It, too, had had a recent renaissance in the excitement occasioned by "puzzle-box" experiments. It was in 1898 that Edward Lee Thorndike had first put hungry animals into these ingeniously contrived cages and studied their behaviour as they dashed about trying to extricate themselves by clawing at buttons, yanking at wires, pulling upon strings, and lifting latches. Their reward for manipulating the correct gadget in the proper manner was not only freedom, but food. And they were confined to their boxes until their technique became perfect. Cats and dogs were the subjects of Thorndike's original tests, but other investigators, Watson among them, soon adapted his methods to work with other animals. Already in pedagogical theory, the hungry cats and dogs had been replaced by ignorant boys and girls, and the way to possession of tempting food outside the cages had become proficiency in reading, writing, and arithmetic.*

With Thorndike's objective reports of his experiments, Watson had no quarrel. He, too, had found that

THE BEHAVIOURISM OF JOHN B. WATSON

in its first escape an animal was guided only by chance, but that subsequently it tended to find the key to its release more and more quickly, until at length it ran for the right button or latch or string as soon as it entered its cage. But Thorndike's explanation of the continued recurrence of the correct responses, he rejected flatly. It was Thorndike's contention that the pleasure accompanying freedom and food "stamped in" the proper movements. This argument fitted beautifully into the theories of educational psychology, whose first postulate must be a child's eagerness to learn its lessons. Watson, however, had studied animal experimentation in a more realistic school.

It was at the University of Chicago between 1892 and 1902 that Jacques Loeb had performed some of his most famous investigations upon the tropisms of molluscs, sea anemones, daphnia, and other small beasts of whimsical names. It was there that Watson had learned that the most fantastic behaviour of such simple creatures can be explained by laws as mechanistic and as subject to control as those which govern the more modest movements of plants. Loeb had evoked no magic word like conscious pleasure to account for the action of lower animals, and Watson decided that the explanation of mammalian training should be just as objective and exact. So he labelled Thorndike's assumptions, of a dog's or a cat's delight "stamping in" its correct responses, "fairy tales," and advanced the theory that all learning, whether in the lowest animals or the highest, was caused by the mathematical laws of recency and frequency operating along with those of probability.

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

These were the high spots of the behaviourism which was threshed out in university circles. It was not a new system of psychology, for it offered no novel conception of mind. It was, rather, a novel technique—an application of the more rigid physiological methods of Loeb to the same problems which had puzzled psychologists since the days of Müller and Helmholtz and Wundt. It could best be described as James, perhaps too sanguinely, had characterized the psychology of his day : “the hope of a science.” Even those authorities whose pet theories it vaguely threatened with disaster were enticed by its straightforward daring. The year after Watson had made his declaration, the American Psychological Association recognized him as one of its most distinguished members, elected him its president, and waited eagerly for him to fulfil his promises.

They waited in vain. Ten years later the Watson of the laboratory had evolved into an orator preaching, none too quietly, the glories of redemption through reconditioning. Gone was the young scientist deferentially trying to convince his elders of the worthiness of his work. In his place stood the prophet of a new gospel.

It seems almost instinctive to call the current behaviourism a gospel. Louis Berman has labelled it a religion and Mortimer Adler has dubbed its author the Billy Sunday of psychology. At first these terms appear incongruous with Watson's disparaging attitude toward all supernatural beliefs. He is as devastating as the most confirmed atheist when he sweeps priests and prophets, ministers and medicine men, soothsayers and superstitious darkies into the same mental category.

THE BEHAVIOURISM OF JOHN B. WATSON

But Watson's attack on religion differs essentially from that of most contemporary agnostics. In the first place he does not identify, or even connect, his scepticism with intellectual emancipation. He states emphatically that he is "not arguing for free anything—least of all free speech." Again, his attack upon miraculous creeds carries with it no quarrel with evangelism. His highest hope for this new science of his is that it will make "men and women eager to rearrange their own lives"—the identical ambition of every evangelist who ever pounded a pulpit. He does not eschew Christianity because its dogma is untenable, but because its practical benefits have been so few. He does not look down upon the medicine man intellectually; he admires him. "A good medicine man has the best of everything." But he does think that a Behaviourist makes a fitter medicine man than a Hottentot, a Catholic, or a Protestant. He even believes that "among the educated" the orthodox creeds are already giving way to a new ethics based "entirely on behaviouristic methods." And he exhorts the votaries, whom he pictures flocking to him "with almost frantic interest," in words only too reminiscent of those older priests he sees himself replacing: "For the universe will change if you bring up your children, not in the freedom of the libertine, but in behaviouristic freedom—a freedom which we cannot even picture in words, so little do we know of it."

Why, one may pertinently ask, is Dr. Watson, who once pleaded only for exact results and objective records, extolling a behaviourism whose wonders he can neither describe nor predict? In finding the answer to this question, one should not probe for motives, for the

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

behaviourist denies motives. According to his formula, having discovered a response, one should merely seek its stimulus. In a search for stimuli, three bald, verifiable, and apparently unrelated facts come to light. First, Dr. Karl Lashley in the Johns Hopkins laboratory duplicated with human subjects the salivary experiments which Ivan Pavlov and his Russian colleagues had performed upon animals. Then, working at the same university and at about the same time, Watson, himself, carried on some very colourful tests of the emotional performances of extremely young infants. Finally, in 1920 Watson quit his laboratory for an executive position in an advertising agency.

Pavlov's investigations of digestive secretions form a group of experiments, not too complicated but clean-cut and conclusive, such as every scientist must dream of performing. For a long time physiologists had known that the eating of palatable food causes the secretion not only of the gastric glands of the stomach but also of the salivary glands of the mouth. The gastric juice is ready to complete the digestion which the saliva begins. Pavlov discovered that a dog's glands would begin to pour out their secretions some time before the actual eating began. Not only would the taste of the food start a flow of juices, but also its sight or its odour, or even the sudden appearance of the animal's regular dinner-bearer. There was, of course, no more direct connection between this attendant and the dog's salivary glands than the accidental one of temporal connection. So Pavlov wondered if he could make other stimuli, not ordinarily associated with eating, cause a food-response from these glands. Accordingly, while its salivary juices

THE BEHAVIOURISM OF JOHN B. WATSON

were flowing in appreciation of a savoury mouthful, he stimulated the dog in other ways, such as ringing a bell or flashing a light. After many trials, he rang the bell or flashed the light when the dog's mouth was empty and no food was in sight. He summarized his results in these words :

“ Any ocular stimulus, any desired sound, any odour that might be selected, and the stimulation of any part of the skin, either by mechanical means or by the application of heat or cold, have in our hands never failed to stimulate the salivary glands, although they were all of them at one time supposed to be inefficient for such a purpose.”

For this work upon conditioned reflexes, Pavlov in 1904 received the Nobel Prize for Medicine. The official English version of his work had been made in 1902, but even earlier than that, Stanley Hall, sensing its probable bearing upon general psychological problems, had secured a private translation. By 1908, the psychological implications of the conditioned reflex were accepted so widely that even Morton Prince quoted from Pavlov extensively in an attempt to prove that the psychic powers of animals were not essentially different from those of men. At that time, however, Watson was not among those who saw in the conditioned reflex any great significance for psychology, even animal psychology. As late as 1914, he thought that there were severe and “inherent difficulties in the method,” and that its “general range of usefulness” was decidedly limited. It was not until Lashley, his own student, working in his

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

own laboratory, and using him as one of his subjects, proved that the human glands could also be conditioned, that Watson conceded that Pavlov might have come upon some useful facts.

Watson's own experiments, which he performed at the Harriet Lane Hospital, were not quite so conclusive as his colleagues', but they were undoubtedly more ambitious and their results were certainly interesting. He began them with the beautiful gesture of consigning "to the waste-basket" everything that everyone else had ever written about the emotions. He then attacked these processes vigorously by stimulating in all manner of strange ways children aged from ten to fifteen days. From this work he concluded that the human being is born into the world with only three emotions: fear, rage, and love; and that only a limited number of stimuli will originally evoke any of them. A child, whose life span is measured merely by days or hours, is afraid of nothing but loud sounds and losing its support; it is enraged by but one thing: having its bodily movements restrained; and it does not gurgle and coo for love except when it is tickled, gently rocked, stroked, or patted.

It was not until after he had left Hopkins far behind—and Freud had begun to be discussed in drawing-rooms—that Watson realized the full news value of these two experiments which had been performed there. His new position, however, did not push them completely from his memory. Among his new duties was the task of giving expert advice about selecting, placing, firing

and advancing "personnel." As a former professor of psychology, his business associates naturally accepted him as an expert upon the subject of personality.

Personality is, of course, the ultimate goal of any psychology which aspires to practicability. It is the chief concern of the Adlers and the Jungs and, in a more restricted sense, the Freuds. But Watson continued to class all forms of psychoanalysis with voodooism, Christianity, and phrenology. Even the more conservative introspectionists and the more rigorous experimenters had customarily allowed themselves the luxury of appending a chapter on personality to the more tedious bulk of their volumes. What they had written was often sketchy and vague, and at times seemingly unreal; at any rate Watson would have none of it. His earlier behaviourism, founded as most of it was upon his own researches among monkeys, mice, and the several varieties of terns, was of little help to him in deciding upon the correct personalities for canvassers, stenographers, or messenger boys. But Watson was undaunted; he remembered Lashley's salivary research and his own baby investigations. From those two experiments, as simple as they appeared to be, he built up not only a complete psychology but a pretentious practical philosophy as well. It seems preposterous, incredible, impossible; but he did it. He was facing academic ridicule; but Freud had already proved that such criticism was not deadly. His new theory required as many recantations as the history of science has ever known; he made them gladly. What is more, he is inordinately proud of and unconditionally satisfied with his result.

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

What had he found in his baby experiments ? Only three emotions : fear, rage, and love. Very well then, he declared, they are the only emotions a human being can be born with. Furthermore, aside from an anatomical structure which vaguely distinguishes him from a kangaroo, and the ability to use his arms and hands and trunks and legs and vocal chords, these are all that a man ever inherits. Yes, Watson repudiated the noddies completely and renounced the lessons they had taught him about human nature. He asserted positively that there were no instincts, and added almost as an after-thought : “ There is no such thing as an inheritance of *capacity, talent, temperament, mental constitution and characteristics.*” He went even further and denied that “ slight differences in body and brain structure . . . make a difference in the way the newborn starts out.” He admitted that some people are born without fingers, others with deficiencies of ears, eyes, or brains, but still he maintained “ contrasted with what the human infant has to learn (be conditioned to), it is all-*unimportant.*” It is his often reiterated belief that a man “ too stupid to lie, too bovine to laugh or play,” started life with the same capacities as one suited to the rôle of diplomat, politician, or real-estate salesman (these three vocations Watson selects as the proper profession for an individual described as “ good looking, educated, sophisticated, accustomed to good society, travelled ”—he makes no distinctions among them).

These manifestoes, of course, go somewhat counter to the theory of evolution. Watson is not disturbed by that. Sigmund Freud has classed himself as an intellectual power with Darwin and Copernicus. John

THE BEHAVIOURISM OF JOHN B. WATSON

B. Watson does not allow even Darwin mental equality with himself. About human inheritance, he explains, the author of *Origin of Species* had "no real data." The behaviouristic theory of man's natural endowment resembles more closely, Watson discovers, that described in the Declaration of Independence; and he condescendingly remarks: "The signers of that document were nearer right than one might expect, considering their dense ignorance of psychology."

But why shouldn't he condescend? How can he help but feel superior to such persons as Darwin and Jefferson and Franklin? They were all self-confessedly mortal men with a human's prerogative to err. John B. Watson, by his own statement, is not. Unblushingly he proclaims: "Give me a dozen healthy infants, well-formed, and my own specified world to bring them up in, and I'll guarantee to take any one at random and train him to become any type of specialist I might select—into a doctor, lawyer, artist, merchant-chief, and, yes, even into beggar-man and thief, regardless of his talents, penchants, tendencies, abilities, vocations, and race of ancestors." A man who can honestly promise this can obviously feel inferior to no one.

How will the behaviourist produce his artists and beggars and lawyers and thieves? By exactly the same method that Pavlov caused an artificial flow of saliva in his sutured dogs, the very technique whose usefulness Watson once judged so limited. Should a child be taught to fear animals? Then bang upon a steel bar as it sees its first rat. The terror which the unpleasant sound originally provoked will soon attach itself to any furry creature. Should this dread be stopped? Then have a

rabbit present as the hungry child eats its lunch. Soon it will react as pleasurably to all animals as to the lunch itself. Or perhaps the youngster should be trained to know which objects it is supposed to touch and which to leave alone. Then have "a table top electrically wired in such a way that if a child reaches for a glass or a delicate vase it will be punished, whereas if it reaches for its toys or other things it is allowed to play with, it can get them without being electrically shocked";—a procedure very like that of a famous unscientific contemporary who reconditions too boisterous "suckers" in her famous Broadway salon by placing them in seats similarly electrified.

Watson has apparently not yet developed his method for the training of specialists beyond this elementary stage; he does, however, put forward this theory of human reconditioning as his very own. It is his contribution not only to psychology, but to education, philosophy, ethics, sociology, theology, and life. One may marvel, but one may also remember, and the pragmatic figure of William James hovers in the fringe of consciousness. James, of course, could never have conceived that electrically charged table, but he did write :

"Our education means, in short, little more than a mass of possibilities of reaction, acquired at home, at school, or in the training of affairs. . . .

"Every acquired reaction is, as a rule, either a complication grafted on a native reaction, or a substitute for a native reaction, which the same object originally tended to provoke.

THE BEHAVIOURISM OF JOHN B. WATSON

“ Suppose now you appear before the child with a new toy as a present for him. No sooner does he see the toy than he seeks to snatch it. You slap the hand ; it is withdrawn, and the child cries. You hold up the toy, smiling and saying, ‘ Beg for it nicely,—so ! ’ The child stops crying, imitates you, receives the toy, and crows with pleasure ; and that little cycle of training is complete. You have substituted the new reacting of ‘ begging ’ for the native reaction of snatching. . . . ”

James taught this theory of acquired reactions in the '90's, several years before Pavlov's work was known to Americans and a quarter of a century before it was duplicated by Lashley and championed by Watson ; yet nowhere in all behaviouristic literature is the technique of human reconditioning set forth so concisely or so explicitly as in these quotations from *Talks to Teachers*. Even Watson's pronouncement of the true touchstone to all success, systematic work habits, is painfully reminiscent of the comforting advice of the first pragmatist.

“ Once,” Watson explains, “ I had to write a little brief on the chief factors in looking at men for jobs. I wrote that if I had to select an individual on the basis of any one characteristic, I should choose *work habits*—actual love of work, willingness to take an overload of work, to work longer than actual specified hours, and to clean the chips after the work is done. ”

This is Watson's dictum ; he may now feel that it is original. But industry was as much venerated in Victorian New England as it is in racketeered New York. And James's famous chapter on habits includes this passage : “ Let no youth have any anxiety about the

upshot of his education, whatever the line of it may be. If he keep faithfully busy each hour of the working day, he may safely leave the final result to itself. He can with perfect certainty count on waking up some fine morning, to find himself one of the competent ones of his generation, in whatever pursuit he may have singled out."

However much James may have stressed, and did stress, acquired reactions and habits of industry, he did not try to explain all of the intricacies of human nature by these two processes alone. He wrote at greater length and with more relish of the other faculties which he believed made up the human mind: the stream of thought; the consciousness of self; imagination; association; instinct; and will. But Watson has denied the existence of such processes and has foresworn the necessity of even discussing them. Yet he has promised to give an explanation of human personality and society which will be as comprehensive as James's and more satisfactory. He has done this by the simple expedient of taking two words, stimulus and response, whose significance was originally limited and precise, and making them mean anything that he wants them to mean. For Pavlov and Lashley, stimuli were such physical facts as flashes of lights or pure tones. For Watson they become: war, employees' bonuses, the formation of the Soviet Government, prohibition, employees' salaries, easy divorce. And responses are no longer simple physiological reactions but: continence, truthfulness, marriage, and joining the Church.

In manipulating these larger stimuli and responses, Watson believes that, except at certain periods of

THE BEHAVIOURISM OF JOHN B. WATSON

Grecian history, society has erred grievously, has worked blindly, and experimented childishly. But light and maturity are close at hand. Already the behaviourist "is amassing a wealth of information on the reactions following stimuli and on the stimuli underlying given reactions, that will prove of inestimable benefit to society." "Some day," Watson sanguinely remarks, "we hope to attain such proficiency that we can take the worst adult social failure (provided he is biologically sound), pull him apart, psychologically speaking, and give him a new set of works."

Society may ask this scientist to produce his data which will right all its ancient wrongs. And society may be astonished, if not a little embarrassed, to discover that they are answers to questionnaires made by young people desperately anxious to make the correct impressions for securing positions in an advertising firm. The scientist, himself, is not embarrassed. He has marshalled the filled-in blanks of his applicants, he has studied their educational charts, their achievement charts, their recreational charts, and he has observed their emotional make-up under practical conditions. From these records, how many they are he does not say, he has constructed his social psychology. He has solved with casual ease problems which most psychologists have not dared to attack. He has explained in a few words phenomena which even Jung and Adler, with all their probings into types and motives, have approached very gingerly.

There is, for example, the question of genius. Few psychologists have felt they knew its answer. Watson does ; it is "the formation of early work habits in youth,

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

of working longer hours than others, of practising more intensely than others." He even knows the specific formulæ for the various forms of genius. The whole secret of the literary variety is "manipulating words, shifting them about until a new pattern is hit upon." In a poet, for example, "the touch of the pencil starts the verbal activity just as the whistle of the referee at the football games releases a group of fighting, struggling men." The "trade" of a painter is indistinguishable from that of a dressmaker. But poets and painters, we discover, are, after all, rather inferior kinds of geniuses, for the largest factor in any art is "a tremendous amount of hokum." Watson believes, therefore, that "there ought not to be any such person as an art or dramatic critic." In their stead he would provide all theatres, libraries, and galleries with efficiently trained corps of behaviouristic experimenters, who would record the emotional responses of those who looked or read or heard. The plays or pictures or books which produced in their beholders overt, measurable signs of "grief, joy, or rage" would be marked successes. The others would go in the garbage can and nothing of value would be lost. Until this scientific criticism can be arranged, Watson has a simpler and easier way of judging artistic endeavour. The test of the writer is "the price he gets for his stories year by year."

Would he, then, do away with education? Not entirely; even college will have its use in a behaviouristic universe—not, however, as an institution where information or wisdom is acquired. Although an A.B., a Ph.D., and an LL.D., the mental creator of this glorious future world states boastfully, "I studied

history faithfully and I couldn't name ten presidents or give ten important dates in history." In choosing among applicants for a position he would pass over the young men who possess these useless "verbal habits" in favour of one whose recreational chart shows him proficient at golf, tennis, dancing, or cards. Indeed, now that Freud has made it safe to talk freely about sex, and religion is on the decline, one of Watson's chief quarrels with Society is, he tells us, that it allows its citizens to "get away with rotten tennis. . . ." Yet he finds in the university advantages which less astute educators have usually overlooked. He approves it as "a place for learning to keep your clothes pressed and your person looking neat ; as a place in which to learn how to be polite in a lady's or a gentleman's presence."

As soon as Watson speaks the word gentleman, one is forced once more to remember William James, for not since the publication of his *Principles* has the "man of fashion" come in for his psychological rating. In that book, James tried to explain the difference between a gentleman and those other persons who make the "most intolerable of companions." In part he concluded :

"To ignore, to disdain to consider, to overlook, are the essence of the 'gentleman.' . . . It is not only that the gentleman ignores considerations relative to conduct, sordid suspicions, fears, calculations, etc., which the vulgarian is fated to entertain ; it is that he is silent where the vulgarian talks ; that he gives nothing but results where the vulgarian is profuse of reasons ; that he does not explain or apologize. . . . So great is our sense of harmony and ease in passing from the company

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

of a philistine to that of an aristocratic temperament, that we are almost tempted to deem the falsest views and tastes as held by a man of the world, truer than the truest as held by a common person."

Watson, too, has pondered this same problem, and he has indicated the behaviourist's standard of an aristocrat :

" The other day a stranger moved to a small suburban town where some fifty or sixty families live in a close social group. It was interesting to hear the comments of the residents after a club dance. ' He is simply awful, so gauche.' . . . ' He is terrible-looking, an awful dancer, and he knows nothing.' We need not proceed with his crucifixion. In the stretch of a single evening his personality was judged and thumbs were turned down. The sun might well halt in its course before this gentleman makes society in Petronia."

Thus has psychology, as a study of man's nature and a guide to his conduct, progressed through forty years.

CHAPTER XI

THE PURPOSIVE PSYCHOLOGY OF WILLIAM McDOUGALL AND *GESTALT PSYCHOLOGIE*

WATSON'S cocky criticism of his scientific elders has not, of course, gone unchallenged. Yet on the whole he has received much gentler treatment from other psychologists than they have got from him. The psychoanalysts, whose doctrines he has likened to phrenology and voodooism, have classed him with all the other psychologists of the laboratory or library whose facts and theories they find too obvious, or too useless, for psychiatric consideration. That is, except for occasional outbursts, they have ignored him. As for the academic psychologists, whom Watson has called theologians, he has rather effectively, whether intentionally or not, tied their critical hands. Their conventional, controversial methods are poorly suited for parrying such a sturdy bludgeon as behaviourism.

By the unwritten rules of psychological sparring, there have been two recognized ways of assailing a rival theory. The first is to attack the philosophical assumptions upon which it is based ; the second, to discover and elaborate upon the lesser inconsistencies within the system itself. Neither is effective in an assault upon behaviourism. In

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

Watson's earlier theories there are no logical inconsistencies. He rules consciousness out of his speculations ; and he keeps it out. And as for general assumptions, he makes none except those of experimental physiology, which are to be found in every introspective psychology.

The more expansive, later behaviourism is better open to attack, but this more recent departure has proved, in its entirety, a rather embarrassing subject to academic psychologists. In his own professorial days Watson, however radical his ideas, had been received as one of indisputable academic standing. His theories were given serious attention and his earlier volumes recommended as textbooks. To acknowledge his later methods for improving the world and rearing children as worthy of extended study would admit as scholarly data material which is contradictory to the very definition of the aloof psychology of the colleges. So the puzzled professors have found an easier way out of the situation in treating the very much alive Dr. Watson as though he died psychologically some time about 1920 ; of overlooking his recent, more flamboyant utterances ; and of contenting themselves with criticizing his earlier theories as " naïve," " unfinished," and " not well thought out."

And since there was no native to take up the cudgels against Watson with the proper enthusiasm, it seemed that America imported a doughty warrior from England for that especial purpose. He came in the person of William McDougall, who arrived in 1920, paused for a while at Harvard, and then passed on to that pride of the New South, Duke University. Almost as soon as he stepped off the gang-plank, Dr. McDougall began to tell America what he thought of its mechanistic son, John

B. Watson. He has expressed his unfavourable opinion in newspapers, in magazines, in books, in speeches, in sermons, and to Watson, himself, in debates ; and he is still expressing it. Apparently when he reads over anything he has written and finds that he has not said quite enough about the shocking radicalism of behaviourism, he then adds foot-note after foot-note until he has made his horror absolutely clear.

As a son of the nation which produced Darwin and Huxley, Spencer and Galton, and all the other investigators of human inheritance, McDougall was quite naturally astounded by Watson's scepticism about instincts. It was after reviewing the behaviourist's stand upon that subject, that he let fly one of his neatest characterizations : " Dr. Watson's defiance is magnificent, as magnificent as the similar defiance of the late Mr. Bryan in face of the evidence for human evolution. It is disconcerting and portentous that a man whose reasoning processes are habitually of the kind illustrated above should be widely acclaimed in this country as a leader in a great field of science. The fact gives furiously to think."

McDougall is as certain of the basic importance of instincts as Watson is of their non-existence. " Take away these instinctive dispositions, with their powerful impulses," he declares, " and the organism would become incapable of activity of any kind ; it would lie inert and motionless, like a wonderful clockwork whose mainspring had been removed or a steam-engine whose fires had been drawn."

So wonderful are the inherited impulses to McDougall that he never seems quite able to view them dispassionately.

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

sionately enough to decide just how many, and of what kind, they are. Back in 1908 he delineated only seven major instincts : repulsion, curiosity, flight, pugnacity, self-abasement, self-assertion, and the parental instinct. But, after a while, laughter was added, and then distress, food-seeking, acquisitiveness, gregariousness, and, a little regretfully, pairing or mating. In some of his lists, construction appears as a major instinct ; in others, either the parental impulse or that of reproduction is omitted.

After discovering how much Freud can do with the single instinct of sex, it seems strange that it took McDougall so long to recognize it as a major impulse. It must have pained him to have to admit, and to declare right out in black and white, that the emotion which regularly accompanies the mating instinct is the " feeling of lust " ; because he adds that although this emotion is sometimes called love, it is " an unfortunate and confusing usage." But his description of a primitive man in the throes of the " pairing instinct " could put wicked thoughts into no youthful head.

" When spring puts an end to the hardships of winter," McDougall rhapsodizes, " the sexual appetite waxes strong in Mowgli (the natural man) ; and his imagination dwells upon the girl, sustained by a strong desire. He lies in wait for her and intercepts her returning from the spring with a gourd full of water." But the girl is not quite so natural as Mowgli ; at least her mating instinct is not waxing so fully. Instead of a clinch, " she repels his nearer approach with fierce cries and gestures, and flees to the shelter of her cave."

After that, in the interest of his reproductive impulse, Mowgli brings her a rabbit, kills a wild beast before her

eyes, and also his rival "by a stealthy blow from behind." After these interruptions the maiden "welcomes him," and we come to the description of what we have been led to expect will be lust. And what does Professor McDougall tell us? Simply that "The Mowgli resumes his courting, and soon he leads the girl to a cave he has newly discovered; and there they set up house-keeping and found a new family."

McDougall has more faults to find with behaviourism than those occasioned by its off-hand denial of mental inheritance. He calls the whole doctrine "bizarre," "unorthodox," "opposed to accepted principles," "'agin the Government," "contrary to common sense," "paradoxical," and "preposterous." He apparently concedes Watson nothing except the possession of an "attractive and forceful personality." He will not even allow him the exclusive use of his famous term "behaviour."

McDougall, too, bases psychology upon behaviour, but behaviour for him is a very different process from Watson's mechanistically conditioned reflexes. True behaviour, McDougall believes, is foremost and for ever "purposive action," a striving upwards toward a set goal. And he is exceedingly generous with his purposive strivings. He bestows them upon all animals, even the lowly amœba; and thinks they might well be used to describe the motions of plants in such cases as those in which "a flower turns its face toward the sun, or opens and closes its petals, or when a climbing plant seems to reach out and grasp a support."

Even the biology which he champions so gloriously in his attacks upon Watson, deserts McDougall in explaining

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

the psychic processes of the flora ; and he bemoans the fact that " we have no theory of organic evolution remotely adequate to the problem." But he does not abandon his beliefs in the face of this inadequacy. " It seems clear," he maintains, " that any theory which ignores Mind condemns itself to triviality." As an alternative to the Huxleian theory that mind has developed as an adventitious corollary to the body, he advances his own belief that " organic evolution is a creative process and that Mind is the creative agency." This view sounds reminiscent of Adler ; but it was propounded long before the inferiority complex was explained or even dreamed of ; and there are dimmer echoes of it to be found in most of functionalism.

It may have been Mind which turned Amœba into Cilitia, or coelenterates into flatworms ; but it is not until Mind reaches its zenith of development in *homo sapiens* that McDougall finds it proving incontestably what a truly creative agency it is. For it is only among men that morals are of much importance ; and it is in ethical affairs that the purposive, creative mind attains its greatest freedom. And when he discusses moral action, McDougall is ready to challenge anyone who dares to " lay the intellect to rest upon a pillow of obscure facts," or to hint that man is not " master of his fate."

It is not only the mechanism of Watson that is morally abhorrent to him, it is the materialism and determinism of anyone who identifies the mind with the brain and denies that the will is free. In searching for creatures to accuse of this awful heresy, he has found a goodly number, and he has named them for the danger-

ous doubters that they are. He has encountered Herbert Spencer, Thomas Huxley, Jacques Loeb (whose reasoning powers he considers deplorably weak), Bertrand Russell. And he has finally let his accusing eyes rest upon William James. James's mechanistic sin is, McDougall thinks, the hardest to forgive, for although he suspected that the mind was a free and purposive agent he so often wrote of it as though it were not.

Man, as McDougall envisions him, is no machine made up of conditioned reflexes, "of somewhat complicated pattern, no doubt, but not essentially different from the scratch-reflex of the dog's hind-leg." He is a noble creature "able when perishing of thirst or hunger, to pass the cup or the crust to another, saying 'His need is greater than mine'; or to forgive a gross and wanton injury; or to stand fast when shaken by a horrible fear; or to resist fierce sexual temptation."

If more than a belief in such human fortitude is needed to establish the absolute power of mind over body, then McDougall recounts an event of his own experience which apparently occurred just before he wrote of it:

"This afternoon the surgeon has put a row of stitches through my scalp. He told me, as kindly surgeons do, that it would be a little painful. But he was mistaken, if the term painful be taken in its strict sense. After being kept waiting some little time, I was glad to feel the needles go through my scalp; although of course my sensory experience was of a stinging, burning quality, from which I should have shrunk if I had not known its source and full significance."

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

If most of us shrink at the mere thought of such an experience, it means that our conduct has not yet reached the "higher level" of mental freedom.

The moralistic McDougall arrived in America at a particularly trying time. He came almost simultaneously with short skirts and bath-tub gin ; and he saw many things, such as husbands dancing with other men's wives, and wives with other women's husbands, that disturbed him. But once he was settled in North Carolina, the Southern churchmen took him to their bosom and joined with him in writing a symposium denouncing behaviourism and all its ungodly works.

Though college students showed small indication of becoming unduly exercised about his theories of "purposive strivings," in this doctrine, too, McDougall soon found some congenial companions. For 1923 marked the second invasion of America by the psychological doctrines of Germany. That year two professors arrived to teach a new discipline which superficially was much like Wundt's, but which its advocates maintain is so different. Wolfgang Köhler lectured at Clark and Kurt Koffka at Cornell. The latter is now director of the psychological laboratory at Smith. In the *Gestalt Theorie* which they propounded, McDougall saw a recurrence of his own belief in purposive action and his active opposition to materialistic mechanism.

The Gestalt psychologists came to public attention first, not because of the experiments upon human perception, which were performed in their German laboratories, and upon which their theories were origin-

ally based, but on account of Köhler's tests of anthropoid intelligence, which occurred on the Island of Teneriffe.

In a sense, Köhler's research was another protest against the conclusions which Thorndike drew from his puzzle-box experiments. But unlike Watson's classic objection, Köhler found fault with Thorndike not because he credited his animals with too much consciousness, but because he allowed them too little intelligence. Köhler declared, and quite reasonably, that the tests, which Thorndike claimed afforded proof that his animals were too stupid to extricate themselves from their boxes intentionally, may have indicated the creatures' learning power, but left untouched the problem of their possible intellect. For, he argued, if the mechanical ingenuity which the solving of those puzzles required is to be taken as the sole criterion of intelligence, then a great many men who have hitherto been considered mentally normal, or even brilliant, would have to be demoted to the sub-idiot category.

So, leaving behind him all the complicated apparatus of the conventional animal laboratory, Köhler set out in 1918 for the Canary Islands, to find out how well chimpanzees might solve problems if the tools with which they worked were as comprehensible to the average man as sticks and stones. And if his experiments proved that apes possess a kind of intelligence, somewhat different from, but not much inferior to that which is commonly called human, they also indicated that Köhler, himself, employed this human intelligence to a degree not too often encountered among cloistered experimenters.

For almost four years he lived among his colony of

apes, which had been transplanted from the mainland of Africa and established in their own home, comfortably furnished with beds, boxes, and chairs, and surrounded by a large, wire-enclosed play-yard. During that time he became well acquainted with them and took copious notes upon their quaint communal life. He learned of their passion for arraying themselves in all the stray pieces of cloth they could find, or, lacking these effete ornaments, of bedecking themselves with twigs and straw, or even smooth, rounded stones. He observed the pleasure with which the brighter among them teased the more stupid. And he remarked the weird streaks of bodily fastidiousness which these coprophagous creatures could show upon occasion. He was also able to throw considerable light upon the nature and amount of their intelligence.

He found that if they desired an object which had been placed out of reach of even their astonishingly long arms, they could devise ways of obtaining it which would do credit to human ingenuity. If a delectable banana hung high above his head, an ape would pile up a tower of boxes directly beneath it, upon which he would clamber to seize his prize. But if boxes were too clumsy, he would shin up a tall pole and then vault for it. When the fruit was removed several yards beyond his wire fence, he would draw it carefully into grabbing distance with a long stick. If a single pole was not long enough for this operation, he would snatch up two, hollow out the end of one, whittle away at the end of the other, fit the two sticks tightly into each other so that they functioned as one, and then proudly rake in his trophy.

All of these activities, and many more, are described in detail in Köhler's *Mentality of Apes*. The proof of them is ample enough and readily intelligible. But when we come to Köhler's explanation of the "insight" which is shared by both apes and men, we find ourselves right in the heart of the main doctrine of Gestalt psychology. And that is something else again.

The *Gestalt Theorie* is at first glance deceptively moderate. It seems almost a go-between for the older psychologies and the more recent. It accepts as subject-matter both behaviour and consciousness; and in the environment-inheritance controversy it takes a position almost midway between that of Watson and that of McDougall. But to think of the Gestaltists as mediators is to be entirely misled about their fundamental beliefs. They are firmly convinced that all other psychologists are woefully misguided in their subservience to science in general, and physiology in particular. They are all old fogies to Köhler, who finds "the same conservatism in introspection which is so striking in behaviourism." These two factions, he declares, "are so much alike in their fundamental opinions and in their general attitudes that all their wrangling seems like a family quarrel to the onlooker."

From which we conclude, and rightly, that Köhler and the other exploiters of the Gestalt consider themselves onlookers from an entirely different family. The Gestalt household is really still so young that the inscription on its coat of arms is still couched in untranslatable German. Neither Koffka nor Köhler, either in the works they have written in English or those whose translations they have personally supervised, have found accurate

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

equivalents for the few words, *Struktur, Umweg, Gestalt, das Zueinander von Gestalten*, which are the key words to an understanding of their entire doctrine. This, of course, makes an American interpretation of their views doubly difficult. They have, however, been able to express the things in which they do not believe in almost any language they choose. So the negative side of the *Gestalt Theorie* is gradually becoming clear.

The Gestalt psychologists follow the custom, now current among reactionaries, of pointing out how really terribly old-fashioned are most of the ideas that pass as modern. In so doing they have found a great many opinions to demolish and a great many advocates of them to assail. They have gone back even beyond McDougall. He was content to rest after he had vanquished the iconoclastic morals of Mencken and Lindsey and the mechanism of Spencer and Huxley. But Köhler attacks all the trial and error methods of the whole of modern science. And he finds his most pleasant target in the empiricism of David Hume. But the Gestaltists are almost as one with McDougall in the faults they find with accepted, scientific precepts. Like him, they too protest against all the theories which teach "that the processes of nature, if they are left to their own 'blind' play will never produce anything like order"; and that man is a machine.

The Gestalt psychologists introduce their own theory in a seemingly simple guise. They exhibit a page of white paper covered over with dots or lines. And they then quote numberless experiments to prove that these tiny figures are not comprehended as separate small entities, but as integral parts of a pattern, or form, or

shape, or configuration, or any other synonym by which Gestalt is so inadequately changed into English. Then they tell us that the important thing about this configuration is not the individual parts of which it is composed but the "form-quality" which is its core.

Once more we have come upon a recent system of psychology which is more than a little reminiscent of some words of William James. More than forty years ago he remarked that consciousness is fundamentally discriminative, that it "welcomes and rejects, or chooses, all the while it thinks." And as proof that "Accentuation and Emphasis are present in every perception we have," he cited the fact that "dots dispersed on a surface are perceived in rows and groups. Lines separate into diverse figures."

But the Gestalt psychologists do not identify their theories with those of James. Even against his scruples, James posited complete determinism. And though he denied discrete sensations to adults, he bestowed them generously upon new-born infants. The Gestaltists, on the contrary, would never admit that the baby gets its earliest knowledge of the world through any such vague sensory process as James described. They say its first mental activity takes the form of a pattern in its consciousness.

In the *Gestalt Theorie*, all the other psychic functions, instincts, learning, imitation, memory, association, thought, become still other manifestations of the universal "form-quality." Now these "segregated wholes," or configurations, whether found in simple perceptions or complex ideas, whether exhibited by lowly fowls or mighty mammals, are never mere mechanical events. On

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

the contrary, they always "shape themselves toward a definite end." A Gestalt, by its very nature, "dynamically distributes and regulates" itself.

It follows, then, that in the *Gestalt Theorie* man is much more than a conscious automaton, as Huxley would have had him. He is also superior to the creature for ever driven by his unconscious as he appears in the psychoanalytical concept. Köhler shuns both these views in favour of the "layman's belief" that man always knows what he is going to do and how he is going to do it. "In thousands of cases," Köhler asserts, "we do experience the live dynamical context determining one state this way and that change another way. Moreover, we feel where they come from and where they go to, in those instances. Above all, we may experience *why*, issuing from such an event, thing or attitude, a given effect should be just the one we find growing out of it."

The "order and distribution" of these "organized wholes" are a function of neither inheritance nor learning. Their real cause is a force which Köhler calls "dynamical interaction," a thing of psychical "stresses and strains," which the human mind, and also the mind of animals, possesses by virtue of neither birth nor experience, but because it is the fundamental property of all mental process.

Not sensations and their combinations, reflexes and their conditions, nor complexes and their manifestations are the realities of this most modern psychology, but organized shapes, psychical configurations, articulate forms, dynamical *Gestalten*. *Gestalten* may be even more than the thoughts and feelings in our minds. They may

be our bodily actions or those of other persons. By this manner of reasoning, the Gestaltists get around the whole behaviouristic-introspective controversy. Overt behaviour, they say, is just one aspect of the "organized whole," as consciousness is the other; fundamentally they are the same thing. What a man intends to do and what he appears to others to be doing are simply two manifestations of a single configuration, which involves not only his thoughts and actions and his observer's perceptions, but the physiological activities of both their brains.

Scientific physiology, unfortunately, knows nothing about psychical stresses and strains and dynamical wholes. Physiology knows only the manner in which the anatomical organs of the body function. And Köhler is therefore shocked that psychologists should continue to base their concepts of the human mind upon such an unenterprising science as physiology. So he proposes to scrap the scientific principles that have guided psychology heretofore, or at least to modify them until they fit the *Gestalt Theorie*. Dynamical order must be bestowed upon the body so that the body will conform to the mind of the Gestaltists.

But physiology is in its turn as dependent upon physics as psychology is upon physiology; and physics is almost as ignorant of psychic configurations as the biological sciences. So physics must also be altered until it too conforms to the *Gestalt Theorie*. The fact that we can experience a group of discrete stimuli as an articulate configuration presupposes, Köhler believes, "the existence of wholes (in the physical world), which, then, have a real form as their specific quality."

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

It seems, however, that Köhler need not be so anxious about making physics psychological, for when he offers a concrete example of one of those most complex of *Gestalten*, which involves two or more persons and all their thoughts and actions, his respect for physics, or his contempt of physics, seems to differ only in degree, not in kind, from the respect or contempt of a confirmed vitalist. At any rate this is the way he describes the circumstance of one man listening to another play upon a piano :

The "acoustical organization will correspond to something in the pianist which does not exist *as such* in the sound waves between him and his audience. Once more the mediating properties of the stimuli are their relationships. . . . The organization which we experience will correspond not only to the organization of his nervous processes, but also to the organization of his musical 'intentions,' as he *experiences* them. . . . The genesis of communication between the experience of one man and those of another becomes clear enough. The experiences of the first, the pianist, are a picture of the corresponding processes in his brain, so far as organization is concerned. Innervation of the pianist's muscles occurs as something like a projection of that picture upon his muscles. The sound-waves which he produces are not organized, but the relations between them somehow preserve and sustain that previous organization. In a similar nervous system a new organization is built up depending upon those relations existing among the acoustical stimuli. To some degree it will be similar to that which exists or has just existed in the nervous system of the pianist. There-

fore the experience corresponding to these processes will be correspondingly similar to the organization of the experience in the pianist."

If few of us have ever had all this happen to us while we listened to music, it may be because our musical organization is so weak that we never get into this close *rapport* with the performer. Yet the description of so much vicarious experiencing seems somehow hauntingly familiar. It is not, of course, mental telepathy, because the physical stimuli are acknowledged, but it still may be perilously close to thought transference. Are the Gestalt psychologists also flirting with the same spectre of spiritualism which hovered so expectantly about William James each time he turned his back upon natural science?

CHAPTER XII

THE PSYCHOLOGIES OF TO-DAY

THE banner of Gestalt is now flying proudly in the academic breezes of Cornell, Smith, and several Western colleges ; and America is at present taking a respite from discovering strange theories by which to explain its own psychoses. But the pause will probably be of short duration, and an attentive American audience no doubt awaits the next European savant who invents a novel explanation of the mysterious human mind. For the habit of looking across the Atlantic for theoretical guidance is now too firmly ingrained in American psychology to be lightly broken. Indeed, it is somewhat disconcerting to realize how few of the theories which now flourish here so naturally, really had a native origin. America may have the most scientific psychologists in the world, as she is also credited with having the best-dressed women, but our students of the psyche accept European theories as docilely as the designers of our fashions copy the models of Parisian couturières.

It was of course natural for America to import its first psychological ideas. There was certainly no cause for a science of the mind to sprout from the piety of American theology which in the nineteenth century passed for philosophy. And there was every reason for experi-

THE PSYCHOLOGIES OF TO-DAY

mental psychology springing up in the physiological laboratories of Germany. But the new science was so enthusiastically received here that soon there were three mental workshops in America for every one in Germany ; and this ratio has not declined but steadily increased. Yet American psychology has shown conspicuous vitality only immediately after a strong transfusion of alien blood.

Functionalism represented the first brave attempt to resist this foreign domination and establish a psychology that would be truly American. But it failed in its design, because, after James, no functionalist could think of Wundt with anything like indifference. The authority of the Leipzig laboratory was too majestic to be ignored ; so functionalism became a milder, less austere version of structuralism. And in the beginning behaviourism suffered from the same tradition. It was not until Lashley imported the conditioned reflex from Russia, and Watson arrayed it in an appropriate American garb, that behaviourism stood out as a distinct and vital system of psychology.

Similarly, although Cattell invented mental tests and has diligently applied them since 1890, mental measuring did not really come to life until America learned from France the technique of computing "mental ages."

Almost simultaneously with Binet's tests, came Freud's libidinal unconscious ; and interest in psychological affairs began to approach its zenith. Then Adler's and Jung's modifications of the stricter Freudianism became the vogue. Shortly afterwards McDougall arrived, bringing us his righteous message of a free and

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

purposive, moral mind. And Koffka and Köhler appeared to explain their articulate, dynamic configurations. For the time being, however, America seems to have had its fill of strange doctrines and to be taking time out to digest the large mouthfuls of psychic theories it has been biting off so hungrily during the past forty years.

A glance at the table of contents of Carl Murchison's most recent symposium, the *Psychologies of 1930*, might seem to give the lie to this statement. There, along with the familiar contributions about Functionalism, Behaviourism, and the Psychological Theories of Those Whose Training Background was the Structuralism of E. B. Titchener, we find not only the Analytical Psychology of Adler getting its first official, academic sanction, but we see unfamiliar classifications like "Act" Psychology, Russian Psychology, and Factor Psychology.

As the authors of these strange systems are all foreign to America, one might get the impression that a great psychological revival is taking place in Europe, and that its perpetrators are rapidly transporting their new discoveries to an eager American public. But such, actually, is not the case. These unfamiliar psychologies are far from new and at present not even very much alive. Act psychology is the German version of functionalism, highly philosophical, more obscure, but no younger than its American paraphrase. Russian psychology, aside from the physiological contributions of Pavlov and his colleagues, constitutes an ambitious endeavour to make materialism and mechanism truly Marxian in concept. Factor psychology is the result of England's interest in the same "individual differences"

THE PSYCHOLOGIES OF TO-DAY

which Cattell invented his mental tests to measure, and it is as old as Francis Galton's *Inquiry into Human Faculties*. In the *Psychologies of 1930*, the *Gestalt Theorie* stands out as the most recent hypothesis discussed, and also as the latest that has been adopted by America.

The influence of the *Gestalt Theorie* since it arrived here in 1923 has been peculiar. Some professors, like Dr. Robert Ogden, are convinced that it is the only psychic hypothesis that will survive; but only a few of his colleagues have embraced its principles quite so whole-heartedly. Yet, despite the theory's obscurity and obvious technicality of detail, it has had more of a popular vogue than the more generally intelligible Wundtianism from which it stemmed. Its popular appeal lies, of course, in its rejection of mechanism and its assertion of the reality of psychic purposes. It has, therefore, afforded some manner of comfort, though one doubts much clarity of conception, to the modern intellectuals who have already renounced nineteenth-century materialism, yet cannot decide whether to subscribe to the Humanism of Paul Elmer More or the teleportation of that new Messiah, Charles Fort.

The *Gestalt Theorie*, though it represents itself as super-modern, remains, for all its experiments upon animals and all its speculation about configural physics and articulate biology, an introspective doctrine. Its advocates, though they may seem to be addressing the whole world of scientists and laymen alike, always have a particular audience in mind. They speak directly to the academic psychologists who understand the Wundtian postulates which the *Gestalt Theorie* is endeavouring

to alter. The strictest Gestaltist, once he forgets his dynamic wholes for a moment, instinctively uses the language of Wundt. Thus the coming of Koffka and Köhler caused a real revival in the introspective laboratories. All the optical illusions had to be hauled down from the dusty shelves once more, while the psychological journals blazed with lengthy discussions as to whether the apparent difference in the lengths of two lines constituted an analysable perception or an indissoluble configuration.

By focusing attention upon the academic laboratories once more, the *Gestalt Theorie* seemed, for an interval, to clarify the psychological situation in America. As Koffka and Köhler took their place with the conventional introspections, the behaviourists stood out more boldly from that group ; while the psychoanalysts continued to deny the importance, almost the existence, of both behaviourists and introspectionists. In 1923, America appeared to have three distinct schools of psychology.

Complete harmony, of course, reigned within none of these groups. The functionalists and the introspectionists still quarrelled over the definition of the consciousness they both studied so intently. The most orthodox Freudians refused to accept the inferiority complex for the fundamental phenomenon that Adler claimed it was ; and they upheld their master in scoffing at Jung's weird animi and animæ. And as though gaining courage from the dissension within the psycho-analytical camp, the first supporters of Dr. Watson began to mutter their discontent. By 1925, Professor E. C. Tolman, one of the sternest deniers of mind and consciousness, was declaring publicly that true and proper

behaviourism was "not a mere Muscle Twitchism of the Watsonian variety."

Yet from this welter of claims and accusations and denials and even bitterness, one thing seemed permanent: despite all small, internal differences and bickering, there were three distinct and incompatible schools of psychologists: the conscious, the unconscious, and the anti-conscious. The pronouncements of any one group must remain forever unintelligible to the other two. There was apparently no hope of compromise or reconciliation.

Yet the miracle has come to pass. There are to-day in American universities professors who recognize no conflict between the fundamental positions of the behaviourists, the introspectionists, and the psychoanalysts. They can skip nimbly and agilely from one set of concepts to the other. They can quote Watson in one sentence and Freud in the next as if both gentlemen were talking about identical processes. The only instruments they need are elaborate "restatements" of old theories and a brand new terminology for every book they write.

There have, of course, always been psychologists who have steered clear of the conscious-anticonscious-unconscious controversy. There have been tolerant ones, like Hall and Jastrow, who have approved all theories, regardless of their premises, if they seemed to be throwing light upon human mentality. There have also been the mental testers, like Cattell and Terman, and the applied psychologists, such as Poffenberger and Hollingworth, whose interest has led them into applied fields and thus away from theoretical arguments. Finally there have been mental investigators, like

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

Dewey, Thorndike, Woodworth, and Dunlap, who have been content to work with whatever material they found in their laboratories without becoming any too finicky about its objective or subjective classification.

But it is not these older psychologists, whose work antedated the more recent cliques, who are now trying to reconcile introspection with behaviour and the unconscious. The elaborate restatements are made by men who grew up with the science after its internal schisms had become quite obvious. And their ideas of reconcilability seem to be derived principally from the similarities between the three important words : complex, reflex, and sex. Now an *ex* on the end of a psychological term is as overworked as an *ex* in the title of fictionized biographies was a short while ago. The "social psychologists" seem particularly determined to omit nothing from their expositions ; and foremost among them is Professor Floyd Allport of Syracuse University.

Dr. Allport's system begins in the correct modern (though to the Gestaltists absurdly conservative) manner with the reflex. But unlike Dr. Watson, he is not satisfied with a simple reflex or a conditioned reflex. Instead he must describe allied reflexes, antagonistic reflexes, chain reflexes, circular reflexes, and, most important of all, prepotent reflexes. There are, according to Dr. Allport, six prepotent reflexes : starting and withdrawing, rejecting, struggling, hunger reactions, sensitive zone reactions, and sex reactions—which, as any student of McDougall or Thorndike will immediately recognize, are some of the most reliable instincts of the introspectionists tricked out in a behaviouristic disguise.

THE PSYCHOLOGIES OF TO-DAY

Thus Allport reintroduces the reflex, clothed in its alluring prepotency, to polite society ; and quite frankly, too, for he admits that it explains consciousness as well as behaviour.

And even more than consciousness. By changing Freud's erogenous zones to sensitive zones "allied to the sex drive," by explaining that fixation is only a fancy name for conditioning, by substituting "things done in the interest of sex" for sex sublimation he has arrived at a complete and, to him, perfectly satisfactory "restatement of the Freudian theory." It is true that in so doing he has deprived the theory of the special significance its originator intended it to have, but that is of little consequence in view of the advantage of analysing it into its proper prepotent elements. Likewise, by the simple device of listing Jung's extraversion and introversion in the same category with "drives" (whose physiology is "obscure," but whose "original motive power arises from one or more of the prepotent groups") these mysteries are reduced to the same common foundation.

If the policy of reconciliation advocated by Professor Leonard Troland is even more comprehensive than that devised by Professor Allport, it is because it has been thought out with still greater thoroughness.

Troland describes in some detail the behaviour of a little girl "who cries and struggles every time she is put into a barber's chair . . . due to the fact that on her first visit to the barber's the latter pulled her hair severely in the process of cutting it." This little scene is hauntingly familiar ; it might be one of Watson's own choice illustrations of a conditioned reflex. According

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

to Dr. Troland, however, it is not. No crude behaviouristic reflex produced the small child's screams, but a "conditioned retroflex."

The difference between these seemingly similar processes is enormous. No mere mechanical stimulus sets off a retroflex, but always a conscious perception in association with a conscious affective process ; and back of all lies a proper Gestaltish "configuration of the incoming excitations." Thus three systems are accounted for ; and the rest are not neglected.

Professor Troland is convinced that his retroflex "bears a close similarity to the complex as described by Freud" ; but the complex itself has somehow mysteriously ceased to be the unconscious mechanism its originator led us to believe it was, and has become "a system of ideas (images and perceptions) and affective dispositions." Thus a process which, according to Freud, is of necessity essentially unconscious can be analysed into the most conspicuously conscious of introspective terms.

Professor Troland must not be criticized on this score, however, for it appears that he understands the mysteries of psychoanalysis more completely than the master analyst himself. "Freud," he says, "is not altogether clear as to what the agency is which brings about repression. . . . An examination of his actual cases, however, shows that the agency in question is always a negative retroflex."

But of all the brave attempts to reconcile so many psychological irreconcilables, none is more remarkable than that proposed by S. D. Schmalhausen. Dr. Schmalhausen is obviously so deeply imbued with the

THE PSYCHOLOGIES OF TO-DAY

true spirit of psychoanalysis that he is able to interpret all other psychological doctrines as though the propounders of them were really so many lesser Sigmund Freuds, disguising their libidinal convictions with less sexy and more academic phraseology. Thus, by giving the *Gestalt Theorie* a completely Freudian reading, he arrives at this impassioned plea for "a new morality":

"If we bear in mind not only the sane corrective of Gestalt psychology," Schmalhausen believes, "but the wise emphasis of psychoanalytic discovery, we shall be better prepared to accept with intellectual ease and emotional generosity every kind of human behaviour that is motivated by tenderness, within a setting of love and good will, whatever its traditional misunderstood evaluation may have been. The only fine ultimate test of any bit of human conduct is tenderness. All other methods of evaluating human response are relatively inadequate. Thus, a considerable body of behaviour traditionally thought of as vulgar and perversional may sweetly be conceived of as wholesome and life-enhancing provided the participants in the behaviour find themselves contributing joy and significance to one another's lives.

"The silly infantile doctrine of 'private parts' is no longer meaningful to a mind that perceives behaviour in terms of total context, fluid reality, humanistic setting. By whatever technique lovers bring the precious gift of happiness to one another will be regarded as good precisely because the human being is newly evaluated, no specialized part or zone being taboo, as a thing of screened shame or evil."

Dr. Schmalhausen winds up this idyllic prophecy

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

with the ecstatic question : " Who would have imagined that the sober and abstract Gestalt psychology would finally be meaningful to us because of its reaffirming intelligence in the matter of sexual candour and the body's rights to natural joy ? "

It is difficult to answer who would have imagined such a thing ; certainly, one ventures to suspect, not two earnest and respectable German professors by the names of Koffka and Köhler. They have both fought bravely and idealistically for their belief that behaviour must be perceived in terms of " total context," and their conviction that the configuration of the whole transcends in fluid reality the supposed parts of which it is composed. But it is exceedingly doubtful if they could have foreseen that the American audience, to which they brought their configural message, could have interpreted the words " private parts " by the one specific meaning possible to the small-boy, Freudian mind. Abraham Myerson says that Freud reaches most of his conclusions " by what may be called a play on words or a play with words." But, surely, in the matter of punning, the master's disciples surpass him.

Even Professors Allport and Troland, though more circumspect than Dr. Schmalhausen, do not escape this confusion over the meaning of psychological terminology. So, thankful as the warring factions in the science should be to them for arbitrating their differences so neatly, there is cause to doubt that they will be accorded the gratitude that is their due. It is almost certain that it will be very difficult for a psychologist to know just when the reconcilers are taking his side of the question and when that of an opponent. Both

Allport and Troland, for example, discuss unconscious inhibitions, and they describe them so psychoanalytically and cite examples so nearly identical with those found in the psychopathologies that an alienist must feel himself on familiar ground. Yet should he turn back for a definition of an inhibition he will find Troland calling it a process which "is supposed to be due to a decrease in the conductance of the adjustor which is involved in the response"; and Allport proclaiming that "antagonistic and irrelevant responses are believed to be inhibited by an increase in the synaptic resistance." Evidently they are believing and supposing about two other inhibitions.

Yet the most alarming feature of this general trading of psychological terms is that it is now so contagious that even Dr. Watson is becoming slightly infected whenever he enters the nursery. When he is proclaiming behaviourism from the platform he still denounces the psychoanalysts for the charlatans he has always found them; when, in softer moments, he advises young mothers about how to fashion their daughters' nighties or how to powder their sons' small behinds, he speaks of inferiority complexes and father fixations as though they were the most respectable of established facts. If Professor Babbitt should cite *Sister Carrie* in his defence of Humanism it would be no more confusing.

Perhaps Dr. Walter Hunter has hit upon the only solution of this terminological tangle. He occupies the position of professor of psychology at Clark University; but he does not teach psychology. Indeed, he can scarcely find words adequate to express his contempt of psychologists. The subject he expounds to his

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

students is called by him, if by no one else, Anthroponomy.

Now, the difference between Dr. Hunter's anthroponomy and Dr. Watson's behaviouristic psychology is evident to no one but Dr. Hunter and Dr. Watson. Just what distinctions they find remains forever baffling, but they must be very real, for each hurls at the other the fighting word, "mystic." Still they avoid confusion ; and perhaps if every time every other psychologist wrote a new book he would call the subject it discussed by an arrestingly new name, then every reader could come to it with the safe feeling that it could have no relation to his own preconceived ideas of the nature of psychology.

Despite the recent attempts to unify its course, psychology still pursues its diversified ways. In September of 1929, The Ninth International Congress of Psychology met at Yale University. James McKeen Cattell presided as its president. Ivan P. Pavlov was its most distinguished guest. And students of the psyche flocked from every corner of the globe.

They came from Munich, Glasgow, and Soochow ; from Berlin, Copenhagen, and Rostock ; from London, Vienna, and Leipzig ; from Amsterdam, Budapest, and Calcutta ; from Gröningen, Torino, and Tiflis ; from Brussels, Barcelona, and Jerusalem ; from Rome, Oslo, and Utrecht ; from Moscow, Milan, and Kurashiki ; from Bonn, Buenos Aires, and Poznan ; from Karlsberg, Leeds, and Aberystwyth.

There were also representatives present from the Sorbonne, and the Deutsches Pädagogisches Technikum

of Leningrad ; from Cambridge, and the Chinese Association of the Mass Education Movement ; from King's College, London, and the Leningrad Veterinarian Institute ; from the University College of Wales, and the Presidency College of Madras ; from the Victoria University of New Zealand, and the Universidad de la Plata of the Argentine.

And, of course, there was an abundance of American psychologists on hand to greet the visitors. Special railroad tickets to New Haven were bought by professors in every college you ever heard of, and from many that you probably never even knew existed. But the roster of the Congress proved that not all psychological interest is confined to Harvard and Columbia, or even to Long Island and Winthrop. Dr. A. A. Brill was present to represent the practising psychiatrists. And there were psychologists there from the Philadelphia Child Guidance Clinic and the Mellon Institute of Pittsburgh ; from the Boston Psychopathic Hospital and the Boston Elevated Railways ; the Minnesota Department of Public Institutions and the Dennison Manufacturing Company ; the Johns Hopkins Hospital and the Forsyth Dental Infirmary ; the Bureau of Educational Experiments in New York and the United States Civil Service at Washington ; the New Jersey State Hospital and Hynson, Westcott and Dunning, Inc. ; the H. K. Cushing Laboratory of Experimental Medicine and the Eastman School of Music ; the U.S. Veterans Hospital and R. R. Donnelly and Sons, Company ; the Vineland Training School for Feeble-minded Children and the Simmons Beds Factories.

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

A few titles among the hundreds of papers read by the Congress's American members were these :

An empirical study of zero or negative intelligence.

Learned and unlearned responses in gold-fish.

Advertising in " flat " vs. " standards " from a psychological standpoint.

The relation between morality and intellect.

The magnitude of the psychogalvanic reflex phenomena in alternating current circuits and with direct current of high e.m.f.

The effect of a diet deficient in vitamin E on sex behaviour in male rats.

The emotional stability of a thousand women freshmen.

Shall psychology revise its fundamental postulates ?

Studies of thirst.

Confessions.

Some problems of homosexuality.

The vibrato in artistic voices.

Origin and nature of common annoyances.

A " generalized " statistics.

Are there subjective facts ?

The dangerous ambiguity of the term " meaning."

The teaching of reading from the standpoint of the non-reader.

A suggestion for the study of character-reaction.

The Dodge pendulum-photochronograph as used in the registration of eyelid reactions.

Emotion in men and women.

Slant in handwriting and sinistral tendencies.

A modified kinohapt.

Experiment in the control of eliminative functions, and related projects.

THE PSYCHOLOGIES OF TO-DAY

The contribution of ten chronicles of American photo-plays to seventh grade history teaching.

A silencer for laboratory keys.

Shall we continue to train clinical psychologists for second-string jobs in psycho-clinical practice ?

Apparatus for the measurement of chronaxie.

An experimental attack on the general factor *g*.

The immediately given for psychology.

Development of post-rotational head nystagnus in squabs.

Some factors related to happiness.

The dependence of tonal attributes upon phase.

Rhythms and patterns of nocturnal motility.

A method of measuring the interest of a worker in his work.

Ocular pursuit across an obstruction.

On the range of human capacities.

Controlled observations on the behaviour of kittens towards rats from birth to five months of age.

Variability in proneness to accidents among electrical substation operators.

Critique of the concept of quality in felt experience.

Psychoanalysis and conduct problems.

Maturation and practice in the co-ordination of pecking reactions in chicks.

Eye-movements during profound sleepiness.

Qualitative differences between highly successful and moderately successful educational leaders.

Experimental studies of the relation between exercise, learning and resistance to disease.

The Gestalt point of view in applied psychology.

CHAPTER XIII

BUT IS IT SCIENCE?

IT was in 1899 that William James confessed, "In my humble opinion there is no 'new psychology' worthy of the name." If anyone, of less authority than James himself, should make that same statement to-day, he would no doubt be branded a malicious ignoramus. Now, we have some half-dozen new psychologies whose advocates consider them supremely worthy of the name. Yet the science of psychology is essentially the same as it was thirty-two years ago. It has not made a single substantial or fundamental discovery since 1899.

Experimental psychology was just then in its prime. Most of the great laboratories had already been established, and Wundtianism had made all of its most spectacular advances. And the psychologies that are now considered even newer than it were already in existence.

For almost ten years the American Psychological Association had been paying the keenest official attention to Cattell's mental tests. Thorndike, while still a student under James at Harvard, had begun the animal research that was soon to set behaviourism on its iconoclastic course. Pavlov was already at work upon the conditioned reflex, although Watson had not yet proclaimed it for the fundamental process he has

BUT IS IT SCIENCE?

since found it to be; James himself had discovered that man's education is basically a thing of native and acquired reactions.

Almost a century had passed since Göthe had bequeathed to psychological terminology the word "Gestalt"; and though Koffka and Köhler had not yet made it the entire foundation of all mental life, James had recognized discrimination as an essential factor of consciousness. The European alienists had by then recognized the subconscious mind as an important agency in hysteria; and Sigmund Freud had pointed out the wonders of the *Binnenleben*.

Thirty-two years ago none of these new psychologies had the raucous press agents that they have to-day; but James was conversant with its current trends when he asserted that the subject had not advanced materially since the time of Locke. And nothing that he learned of psychology's development during the eleven remaining years of his life made him think of it more tolerantly.

Then, in 1923, Stanley Hall, who had done so much to further all of psychology's most recent tendencies, surveyed the whole busy field, and remarked: "But with all this output I find a growing dissatisfaction with results, which has greatly increased since the War, and a growing uncertainty as to whether we are really on the right trails."

No matter how much we might like to think that psychology has already attained Elysium, these two judgments cannot be escaped, for they were made by the two men most capable of judging their science. Between them, Hall and James did the most to make our psychology what it is. They knew it best.

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

Indeed, it seems that the most significant and the most prophetic event in the whole history of American psychology lay in the circumstance that William James should be its official sponsor. He was able to imbue the subject with a glamour that immediately set it on the road to popularity. Yet James introduced experimental psychology to America through a spirited attack upon the very principles upon which the science was based. For this strange occurrence time and James's own temperament are responsible. If he had written his *Principles* when he was twenty-five and in the first flush of his enthusiasm for the experimental laboratory, he undoubtedly would have praised Wundtianism as heartily as he actually disparaged it. But he did not write it then. He wrote it when he was forty-eight, after he was convinced that Wilhelm Wundt was just an ordinary man with a good education. And into his rich exposition of modern psychology James put all of his dissatisfaction with modern psychology.

Thus the subject began its American career in a rebellious mood. This might have been a healthy sign. It should, perhaps, have set for all future psychologists the example of trusting their own judgments regardless of the pressure of established authority. But James wrote his *Principles* not so much in a spirit of revolt as in that of reaction. It was the very modernity of Wundtianism that repelled him, its uncouthness and its cunning. It was nostalgia for the philosophic chivalry of Locke and Hume and Berkeley and Bain that caused him to lose his respect for Wundt and Mach and Hering and Stumpf.

But even more than that, into his criticism of modern

psychology James injected his personal sentiment that psychology did not matter much one way or the other—even to the man who had spent twelve years in writing its most lucid exposition. He showed that it was really of less importance to him than philosophy, religion, and spiritualism. And this dilettante tradition has persisted down to the present day. It is not so easy to discover it in the writings of the professors who have followed James and Hall, for unlike them they wrote their most important books when they were still under forty and when psychology was yet an engrossing pastime to them. But that its hold upon them was transitory is only too apparent from their subsequent careers.

Only a few of the great psychologists of America remained psychologists after middle age. Dewey and Royce quickly followed James in the easy transition from functionalism to philosophy. Angell soon renounced his professorship for his executive duties as Dean of Chicago and then President of Yale. Watson gave up teaching and experimenting for advertising. Cattell and Münsterberg remained psychologists, but both soon lost interest in the general development of their science. Münsterberg became absorbed in psychotechnics and Cattell in mental tests. Thorndike was soon immersed in the technicalities of teaching boys and girls to read and write and spell and add. In America the two Englishmen, Titchener and McDougall, and the two Germans, Koffka and Köhler, stand out conspicuously because of their willingness to continue teaching the same kind of psychology they originally came here to teach.

The American psychoanalysts, because of their vocation

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

of healing, have also escaped the dilettante tradition. Brill and Healy and White and Glueck and Clark still preach the same kinds of broad psychoanalytical doctrines that they did twenty years ago. But they do not preach their own doctrines. They merely echo the theoretical pronouncements of Freud and Jung and Adler. In escaping James's indifference toward psychology, the American alienists also forfeited his independence of spirit. In all the years that psychoanalysis has been practised and written about in this country, not one native alienist has made a substantial contribution to its development. When Freud changes his concept of the unconscious, or when Adler or Jung or Rank or Ferenczi changes it, the American psychiatrists alter theirs too—but never before. To question European authority would apparently be to commit the unpardonable psychoanalytical sin.

James's light dismissal of psychophysics and the sensationalism of Wundt did not, of course, prevent structuralism from being staunchly upheld in America by other Leipzig-trained professors. But because in 1878, when he began to write the *Principles*, Wundt-ianism was the only recognized scientific psychology, James's rejection of its postulates did write a large and very black question mark after the statement: psychology has become a science. And after more than fifty years that interrogative sign has not yet been replaced by an affirmative period. For science is a discipline of general and impersonal facts, and psychology remains a collection of personal and antagonistic theories.

BUT IS IT SCIENCE ?

But behind this confusion lies a deeper and still more pertinent question : Do psychologists want to be scientists ? All of their protestations, all their laboratories, their tedious researches, their technical treatises seem to answer that they do. Science is a magic word to-day, and every single psychologist, no matter what his private beliefs, has profited enormously through the circumstance that Wilhelm Wundt proclaimed, and to a certain extent proved, that psychology could be as exact as any natural science.

Suppose, for example, that Henry James had put into the mouth of one of his fictional characters these sentences : " Consciousness does not appear to itself chopped up in bits. Such words as ' chain ' or ' train ' do not describe it fitly as it presents itself in the first instance. It is nothing jointed ; it flows. A ' river ' or a ' stream ' are the metaphors by which it is most naturally described " ; or this, " We feel sorry because we cry, angry because we strike, afraid because we tremble." What would have been the result upon subsequent thought ? Nothing at all, most likely. If those sentences happened to be remembered at all, they would be recalled only as some of Henry James's rather neat observations. But because those few words were written not by the James who was a novelist, but by the one who happened, at the moment, to be a psychologist, they immediately became scientific theories, laws of consciousness and the emotions, fit to take their place with the law of gravitation and the theory of evolution.

So it is with most of the psychological laws and theories that now assail us under the security of " science." And every psychoanalyst, no matter the kind of un-

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

consciousness, or the form of complexes, in which he puts his faith, should bow reverentially and cross himself when he hears the name of Wilhelm Wundt. For if there had been no Wundt, and no Helmholtz and Fechner before him, few psychiatrists would characterize their vague hypotheses about intangible phenomena as "empirical facts."

Sigmund Freud was not the first Viennese physician to invent a novel method of spiritual healing. But Mesmer was born too soon—before the experimental physiologists had allowed psychology to call itself a science. So Mesmer is remembered only as the exploiter of hypnotism, while Freud is proclaimed the only really great scientist since Darwin and Copernicus.

Of course, then, a psychologist would be very foolish to renounce all the benefits that the very aura of science now bestows upon him and retreat back into his former state of empiric philosopher or psychologic theologian. And yet that question persists. Do psychologists, deep down within their conscious, unconscious, or behaviouristic hearts, want to be as objective, as sceptical, as merciless in their judgment of facts and theories as other scientists must be ?

That question is really serious, because every time a psychologist answers it in the affirmative he sees a ghost ; the very same ghost that confronts the liberal preacher when he forsakes the supernatural revelations of the Gospel and seeks to make religion rational. The ghost represents the sturdy figure of Thomas Henry Huxley, and it speaks to both the scientific psychologists and the modernistic clergy. And to them both it says the same short sentence : " We are conscious automata."

BUT IS IT SCIENCE?

That is biology's final and deliberate judgment of that wondrous phenomenon known as soulful man. To all the questions of motives, which have perplexed psychologists and religionists alike since the beginning of time, the evidence of natural science answers, "We are conscious automata." Whenever a minister agrees with that statement he forsakes the basic principles of Christian theology. Whenever a psychologist refuses to accept it he steps beyond the logical, factual bounds of science, and forever afterwards squirms uneasily beneath the mystic halo of supernaturalism.

So long as a psychologist is content to remain within the lower ranks of his science, he can ignore that terse statement. But if he ever becomes ambitious enough to write a general textbook upon his subject, or even to compose a definition of the human mind, he must ponder over Huxley's judgment and decide whether he agrees with it or not.

Titchener and Watson accepted it without reservations. They saw man as the *homo sapiens* which biology describes him and as nothing more. They agreed that his mind is absolutely determined by his physical body. They denied him moral freedom and efficacious purpose.

And what have we learned through the conscientious science of Watson and Titchener? We now know that a psychologist if he puts his heart in his task, and directs all of his energy toward it, can act, and talk, and write, and even think like any other scientist. But what have Titchener and Watson taught us about the intricacies of human mentality?

Titchener repeated for us some of the results of the older physiology of Helmholtz. He summarized for our

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

information the facts of sensation. He told us, for instance, that if we gaze long and steadily at a patch of bright blue colour, its hue will begin to grow muddy and grey ; and if we then shut our eyes we will see an after-image of its complementary hue, which is yellow.

Watson, in his turn, has summarized for us some of the facts of the more recent physiology of Pavlov. He has assured us that if our salivary glands secrete their juices while we simultaneously taste palatable food and hear the ringing of a bell, they will eventually pour out their secretions at the sound of the bell alone.

But did Titchener and Watson solve the problems of the higher levels of human mentality ? No ; because when they wrote their psychologies, biology had not yet begun to consider them. And Titchener and Watson were by intent and conviction men of science if nothing more. A fact was to them a scientific fact, one which had been proved incontestably by years of patient, painstaking research. They founded their psychologies upon the facts of biology, and biology, by its own experiments, knew the human mind then only in terms of its lowliest manifestations and activities—its sensations and its reflexes.

James and Hall, Freud, Jung and Adler, McDougall and Koffka and Köhler have all had a great deal to say about the higher mental processes ; but in saying it they have all flaunted natural science. They have flaunted it consciously and defiantly all the while they professed to accept its postulates. A denunciation of the materialism of Huxley runs like a recurrent theme through all of their theories. And it is a theme that has to be treated with the utmost delicacy ; because there

BUT IS IT SCIENCE ?

is no psychologist who does not express an unbounded faith in evolution. And it is the same Thomas Huxley who made the implications of Darwin's hypothesis intelligible and clear.

James handled the theme the most honestly, for he never tried to mislead us about his own private convictions. He admitted that in his own territory Huxley was right, that science offered not a scrap of evidence against his automaton theory. But James was himself no Huxley. He had the courage to face the facts of evolution, but not the heart to believe in their implications. And so he trustingly hoped that there were several kinds of truth, and that the soft, comforting, vague promises of psychical research might be as real as the cold facts of science.

No other psychologist has been so frank, and few have made their attitude toward the automaton theory so clear. Most of them confide in us that they have discovered something wrong with Huxley's interpretation of biological development, but before they tell us just what it is, we find that each has suddenly invented his own theory of evolution to account for just those psychical phenomena which he considers most important. Each thus composes a new psychological, teleological, spiritual biology with which to refute the old biology of accumulated facts,—a technique which is generously shared with the modernistic clergy. And like the clergy, too, the psychologists do not quietly ask us to accept their theories upon their own evidence ; instead they plead with us to believe in them because they explain man so wonderfully.

To account for insight in man, Koffka and Köhler

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

are ready to bestow it upon chickens. In his eagerness to prove that the human mind is a free, moral, creative, purposive agency, McDougall would concede a similar freedom of purpose to poison ivy and the opium-bearing poppy. Hall wanted so desperately to believe in a wholesome man-soul that he was willing to imagine that civilization had almost destroyed it. Adler would convince us that the inferiority complex existed before there was a mind to experience the feeling ; that the feeling itself evolved the organ which feels. The other psychoanalysts seek to awe us with their mysterious tales of primordial urges. Jung goes so far as to assure us that the superconscious, impersonal images have been impressed upon our brains through æons of time. And Freud asks us to believe that through our libidinal impulses all of us are inheritors of Œdipus and castration complexes, primitive Ids, censorious Egos, and super-normal Super-Egos.

Now, all of us may possess these creative, free, libidinal inferior, primordial, configural man-souls ; or we may not. If we would like to think that one or all of them rage about within us, we have a perfect right to do so. But if we refuse to believe in their existence, that is our prerogative too.

If we are intellectually honest, we must accept the fact that the earth revolves about the sun, for if we assert that the sun moves while the earth stands still we are throwing our own private opinion against all the accumulated data of astronomy. It is the same logical necessity which forces us to accept Darwin's hypothesis of the origin of species and the descent of man. But there is no logical necessity for our accepting

a single hypothesis of even the greatest of modern psychologists. For psychological theories are based not upon accumulated evidence but upon personal opinions. And every one of those personal opinions, whether it concerns a complex, a configuration, a primordial impulse, a culture epoch, a supermoral Super-Ego, or a creative purpose, always represents another desperate attempt to give man back a semblance of the free will of which the data of biology so ruthlessly robbed him.

Watson, in his awesome certainty that he is the only man of science which psychology has ever produced, says that all that Wundt's pupils ever accomplished was the substitution of the introspective consciousness for the immortal soul. But if Titchener, the perfect product of the Leipzig laboratory and along with Watson, himself, one of psychology's most ardent sceptics, can be accused of flirting with the supernatural, what can be said of all the rest who join with McDougall in refusing to "lay the mind to rest upon a pillow of obscure facts"?

The answer probably lies in the circumstance that the psychologies of Titchener and Watson, alone, afford no comfort to religion. James and Hall were venerated as deeply by preachers as by educators. McDougall can now command the same sanctified respect. The Reverend Guthrie is safe in having Dr. Cowles conduct his Body and Soul Clinic. The modernism of the Reverend Fosdick and the Catholicism of the Padre of Toc H have both found Freudian catharsis an aid in arresting wandering faith.

The allegiance is not accidental; for psychology had another lover before it sought biology's favours. Wundt

PSYCHOLOGY : SCIENCE OR SUPERSTITION ?

and Helmholtz and Mach and the other Teutonic realists sought to break the bonds which bound psychology to metaphysics. But associations of several thousand years cannot be quickly severed, even by the keenest of analytical minds. And metaphysics was so much kinder to psychology than science has ever been. It was eager to believe all the wondrous things that psychology told it about the mind of man. To the psychic lore it added its centuries-old conviction that that mind was more than mortal.

Though the experimental physiologists would have psychology renounce its happy intimacy with metaphysics for a few paltry data about reflexes and sensations, most psychologists have never really accepted the severance. In Freudian metaphor, the birth of scientific psychology was too tragic an experience for them to admit. The purposive psychologists are still swimming, some floating, others with bold overhand strokes, in the soothing waters of metaphysics, which lead straight into the caverns of theology where man and God are fused.

SELECTED BIBLIOGRAPHY

- ADLER, ALFRED. *The Theory and Practice of Individual Psychology*. 1927.
- ADLER, ALFRED. *Understanding Human Nature*. 1928.
- ALLPORT, FLOYD HENRY. *Social Psychology*. 1924.
- ANDERSON, V. V. *Psychiatry in Industry*. 1929.
- ANGELL, JAMES ROWLAND. *Psychology*. 1909.
- BEERS, CLIFFORD. *A Mind That Found Itself*. 1923.
- BERMAN, LOUIS. *The Glands Regulating Personality*. 1928.
- BLANCHARD, PHYLLIS MARY, and ERNEST RUTHERFORD GROVES. *Introduction to Mental Hygiene*. 1930.
- BORING, EDWIN GARRIGUES. *A History of Experimental Psychology*. 1929.
- BRILL, A. A. *Psychoanalysis: Its Theories and Practical Application*. 1914.
- CALVERTON, V. F., and S. D. SCHMALHAUSEN (Eds.). *Sex in Civilization*. 1929.
- CANNON, WALTER B. *Bodily Changes in Pain, Hunger, Fear and Rage*. 1929.
- CATTELL, J. McKEEN. *Psychology in America*. 1929.
- DARWIN, CHARLES. *The Expression of the Emotions in Man and Animals*. 1929.
- DEWEY, JOHN. *Psychology*. 1891.
- DUNLAP, KNIGHT. *Elements of Scientific Psychology*. 1922.
- FREUD, SIGMUND. *A General Introduction to Psychoanalysis*. 1920.
- FREUD, SIGMUND. *The Interpretation of Dreams*. 1928.

BIBLIOGRAPHY

- FREUD, SIGMUND. *The Psychopathology of Everyday Life*. 1926.
- FREUD, SIGMUND. *The Ego and the Id*. 1927.
- GLUECK, S. SHELDON. *Mental Disorder and the Criminal Law*. 1925.
- GROVES, ERNEST RUTHERFORD, and PHYLLIS MARY BLANCHARD. *Introduction to Mental Hygiene*. 1930.
- HALL, G. STANLEY. *Adolescence*. 1916.
- HALL, G. STANLEY. *Life and Confessions of a Psychologist*. 1923.
- HAMILTON, G. V., and KENNETH MACGOWAN. *What is Wrong with Marriage?* 1929.
- HINKLE, BEATRICE M. *Re-creating the Individual*. 1923.
- HOLLINGWORTH, H. L., and A. T. POFFENBERGER. *Applied Psychology*. 1920.
- HUNTER, WALTER S. *Human Behaviour*. 1928.
- JAMES, WILLIAM. *The Principles of Psychology*. 1890.
- JAMES, WILLIAM. *Psychology: Briefer Course*. 1892.
- JAMES, WILLIAM. *Talks to Teachers*. 1899.
- JAMES, WILLIAM. *The Letters of William James*. 1926.
- JASTROW, JOSEPH. *Keeping Mentally Fit*. 1928.
- JUNG, CARL G. *Psychology of the Unconscious*. 1916.
- JUNG, CARL G. *Psychological Types*. 1926.
- JUNG, CARL G. *Two Essays on Analytical Psychology*. 1928.
- KLEMM, OTTO. *A History of Psychology*. 1914.
- KOFFKA, KURT. *The Growth of the Mind*. 1925.
- KÖHLER, WOLFGANG. *The Mentality of Apes*. 1925.
- KÖHLER, WOLFGANG. *Gestalt Psychology*. 1929.
- LADD, GEORGE TRUMBULL, and R. S. WOODWORTH. *Elements of Physiological Psychology*. 1915.
- LASHLEY, KARL SPENCER. *Brain Mechanisms and Intelligence*. 1929.

BIBLIOGRAPHY

- MACGOWAN, KENNETH, and G. V. HAMILTON. *What Is Wrong with Marriage?* 1929.
- MARTIN, EVERETT DEAN. *Psychology*. 1924.
- MCDUGALL, WILLIAM. *Psychology; The Study of Behaviour*. 1912.
- MCDUGALL, WILLIAM. *An Introduction to Social Psychology*. 1926.
- MCDUGALL, WILLIAM. *Outline of Psychology*. 1929.
- MCDUGALL, WILLIAM, and JOHN B. WATSON. *The Battle of Behaviourism*. 1929.
- MENNINGER, KARL A. *The Human Mind*. 1930.
- MÜNSTERBERG, HUGO. *Psychology and Life*. 1899.
- MÜNSTERBERG, HUGO. *Psychology and Industrial Efficiency*. 1913.
- MÜNSTERBERG, HUGO. *Psychology, General and Applied*. 1914.
- MÜNSTERBERG, HUGO. *On the Witness Stand*. 1927.
- MURCHISON, CARL (Ed.). *Psychologies of 1925*. 1926.
- MURCHISON, CARL (Ed.). *Psychologies of 1930*. 1930.
- PAVLOV, I. P. *Conditioned Reflexes*. 1927.
- PILLSBURY, W. B. *The History of Psychology*. 1929.
- PINTNER, RUDOLPH. *Intelligence Testing*. 1923.
- POFFENBERGER, A. T., and H. L. HOLLINGWORTH. *Applied Psychology*. 1920.
- PRINCE, MORTON. *The Dissociation of a Personality*. 1906.
- PRINCE, MORTON. *The Unconscious*. 1914.
- RAND, BENJAMIN. *The Classical Psychologists*. 1912.
- SCHMALHAUSEN, S. D., and V. F. CALVERTON. *Sex in Civilization*. 1929.
- SEASHORE, CARL EMIL. *Vocational Guidance in Music*. 1916.
- TERMAN, LEWIS M. *The Measurement of Intelligence*. 1916.
- THORNDIKE, EDWARD LEE. *Educational Psychology*. 1924.

BIBLIOGRAPHY

- TITCHENER, EDWARD BRADFORD. *A Textbook of Psychology*. 1916.
- TITCHENER, EDWARD BRADFORD. *A Beginner's Psychology*. 1928.
- TROLAND, LEONARD T. *The Fundamentals of Human Motivation*. 1928.
- WATSON, JOHN B. *Behaviour ; An Introduction to Comparative Psychology*. 1914.
- WATSON, JOHN B. *Psychology from the Standpoint of a Behaviourist*. 1924.
- WATSON, JOHN B. *Behaviourism*. 1925.
- WATSON, JOHN B. *Psychological Care of Infant and Child*. 1928.
- WATSON, JOHN B., and WILLIAM McDUGALL. *The Battle of Behaviourism*. 1929.
- WELD, HARRY PORTER. *Psychology as Science*. 1928.
- WHITE, WILLIAM A. *The Principles of Mental Hygiene*. 1917.
- WOODWORTH, R. S., and GEORGE TRUMBULL LADD. *Elements of Physiological Psychology*. 1915.
- WUNDT, WILHELM. *An Introduction to Psychology*. 1912.
- YERKES, ROBERT M., and CLARENCE STONE YOAKUM. *Army Tests*. 1920.
- YOAKUM, CLARENCE STONE, and ROBERT M. YERKES. *Army Tests*. 1920.

INSTEAD OF A GLOSSARY

I have hesitated to append a formal glossary to this book for fear of falling into their frequent disadvantage in that the definitions are often more confusing than the terms defined. Instead I have prepared the following explanatory outline which I believe adequately answers the purpose of a glossary, and in which I have tried to make the definitions of the important psychological terms used in the book clear enough to satisfy the lay reader rather than the student.

THE whole field of modern psychology can be sharply divided into two great sections: experimental psychology and psychoanalysis. The EXPERIMENTAL PSYCHOLOGISTS—behaviourists, *Gestaltists*, functionalists, structuralists—all try, by adapting the observational methods of natural science to their own needs, to obtain facts about mind or personality. The PSYCHOANALYSTS, who are primarily mental physicians, seek an interpretation of human nature which will aid them in alleviating the psychic maladies of the race.

The BEHAVIOURISTS, Watson, Lashley, Hunter, etc., regard their fellow-man as they do an animal. They investigate only those of his activities which can be observed by another person or detected by scientific instruments. Behaviouristically conceived, human life is nothing more than a series of physiological reactions, everyone set off by an accidental contact with a physical stimulus. A REFLEX, such as the twitch of a single muscle, is the simplest of these reactions, but Watson describes as a RESPONSE any human activity that can be externally observed. The entire personality, with all its capabilities and deficiencies, its faults and virtues, is the result of CONDITIONING—that is, of certain responses becoming intimately connected with certain sets of stimuli.

INSTEAD OF A GLOSSARY

The FUNCTIONALISTS, James, Dewey, Ladd, Angell, etc., regard man as a biological organism, a product both of environment and of inheritance. They also study behaviour, inherited instincts and acquired habits, but they are especially curious about mental activities such as sensations, feelings and thoughts, which for them constitute CONSCIOUSNESS. INTROSPECTION or self-observation is the method by which they investigate these conscious activities.

STRUCTURALISM, as expounded by Wundt, Titchener, Münsterberg, etc., is the fundamental introspective system. The structuralists identify mind with consciousness but they consider it not the biological function of the brain, as the functionalists do, but a complex formation of psychic elements. As a chemist tries to reduce all matter to its physical elements, so does a structural psychologist seek, by means of introspection and an impersonal attitude, to analyse the human mind into its simplest processes. SENSATION, the experience resulting from the direct stimulation of a single sense-organ, is the most important of these mental elements and the only one about whose ultimate simplicity all structuralists agree.

Gestalt PSYCHOLOGY still shows traces of its recent connection with structuralism, but the *Gestaltists* vigorously deny mental elements. *Gestalt* or form is for them the fundamental attribute of mind. All of our experiences, mental and physical, have, they believe, a definite and inherent pattern or CONFIGURATION.

The psychoanalysts, Freud, Jung, Adler, etc., believe that the key to all the puzzles of human nature is to be found in unconscious motivation. But their various descriptions of this hidden power vary.

The human psyche, according to Freud, is divided into three departments: the ID is unconscious and instinctive, the EGO is rational and in large part conscious, the SUPER-EGO is moral and corresponds to the ethical conscience. The UNCONSCIOUS contains not only the primal motives of the human race but also all "evil" desires and ideas which have been REPRESSED, that is, disowned by consciousness. LIBIDO, the

INSTEAD OF A GLOSSARY

force of the erotic instinct, is active even in early infancy when it is directed toward the mother, whom Freud describes as the first object of love. Those incestuous wishes which refuse to relinquish this object for another are described as **FIXATED**. Their integration forms the **Œdipus complex**. A strong **Œdipus complex** becomes the ruling force of the personality. It is especially apparent in **DREAMS** which, Freudianly interpreted, are always manifestations of repressed desires. Erotic impulses which turn toward non-sexual objects are said to be **SUBLIMATED**.

The **INFERIORITY COMPLEX**, in Adler's concept of the psyche, is the one compelling motive of human nature. The inferiority complex is acquired in early infancy when a baby feels itself weaker than all other persons and inadequate to cope with the world. It is enhanced by any physical or mental, real or imaginary deficiency. Because of it, Adler believes, every person wants to dominate his environment, so that a striving toward power becomes the ruling force of psychic life.

The interpretation of the inner life of man is further complicated by Jung's insistence that beyond the Freudian personal unconscious there lies a collective **SUPER-PERSONAL UNCONSCIOUS** composed of **ARCH-TYPES OF MIND**—that is of racial images—and by his belief that every man possesses an unconscious feminine nature, called the **ANIMA**, and every woman a corresponding **ANIMUS**. Jung, however, treats sex more lightly than Freud and uses his theory of psychological types to explain personality. According to this hypothesis everyone is either introverted or extraverted. In an **INTROVERT** the whole force of the psyche is driven inward upon himself; in an **EXTRAVERT** it is directed outward to other persons and objects. An introvert is therefore shy and retiring, while an extravert is bold and gregarious. Jung attempts to relate his theory to types to experimental psychology by declaring that there are four kinds each of extraverts and introverts: the **THINKING**, **FEELING**, **SENSATION**, and **INTUITIVE**.

INDEX

- Adler, A., 10, 103, 139, 140, 141-151, 158, 171, 223, 232, 245, 248, 264, 268, 270
 Adler, M., 212
 adolescence, 112, 170
 Agassiz, L., 23
 Allport, F. H., 172, 250-251, 254
American Journal of Psychology, 20, 79, 104
 American Psychological Association, 17, 79, 81-83, 88, 104, 172, 177, 184, 212, 260
 Ampère, A. M., 27
 analytical psychology, 103, 246.
 See psychoanalysis
 Anaxagoras, 31
 Anderson, V. V., 197, 198
 Angell, F., 82
 Angell, J. R., 88, 89, 203, 263
 anima, 155, 156, 248
 animal spirits, 29, 38
 animals, experiments on, 64-66, 210-211, 214-216, 235-237, 261
 animus, 155, 156, 248
 anthroponomy, 256
 applied psychology, 81, 84, 92-95, 145, 198, 199
 Aquinas, T., 27, 35
 arch-types of mind, 109, 153, 154
 Aristotle, 9, 27, 30, 32-35, 38
 association, 39, 40, 59, 239
 Augustine, St., 27, 35
 Austen, J., 170
 auto-erotism, 119, 124
 automaton theory, 58, 269
 Babbitt, I., 255
 Bacon, R., 27
 Bain, A., 120, 262
 Baldwin, B. T., 172
 Baldwin, J. M., 82
 Barnes, H. E., 194
 Barrett, E. B., 163
 Bashkirtseff, M., 170
 "Beauchamp, Miss," 159
 Beecher, H. W., 76, 107
 Beers, C., 176, 177
 behaviourism, 201-202, 205-231, 245, 246, 260
 Benet, S. V., 169
 Bentley, M., 103
 Berkeley, G., 262
 Berman, L., 171, 212
 Binet, A., 91, 178-180, 184, 245
 Bingham, W. V., 172
 birth, psychoanalytic conception of, 121, 122, 169
 Boring, E. G., 103, 106, 172
 Bowman, K. M., 192
 Boyle, R., 15, 27
 Brill, A. A., 139, 169, 173, 257, 264
 Brown, W., 172
 Bryan, W. J., 229
 Bryan, W. L., 82
 Burnham, W. H., 82
 Cabell, J. B., 169
 Calverton, V. F., 161
 Calvin, J., 170
 Campbell, C. M., 194
 Cannon, W. B., 63-66
 Capone, A., 194
 Carr, H. A., 103, 172
 Cattell, J. M., 26, 27, 74, 82, 83, 90, 91, 178, 197, 198, 247, 249, 256, 260, 263

INDEX

- censor, the, 128, 130
 Chapman, G., 194
 Charcot, J. M., 158-159
 Charles, J. A. C., 15
 child psychology, 80, 111, 112
 Chopin, F. F., 171
 Church, A., 191
 Cicero, 51
 Clark, L. P., 170, 264
 complex, 114, 239, 252; castra-
 tion, 125, 126, 140, 270; in-
 feriority, 139, 142-148, 248, 255,
 270; Oedipus, 44, 126-127, 140,
 142, 270
 Comte, A., 27, 57
 conditioning, behaviouristic, 221
 ff., 257
 configuration, 239-241, 246, 252,
 254, 271
 conscience, 118
 consciousness, 10, 42, 44-47, 57-
 59, 88; James' description of,
 67-68; Münsterberg's discus-
 sion of, 87, 88; Hall's criticism
 of, 95, 109; Watson's denial of,
 203, 205, 237, 239, 241, 251, 261,
 265. *See* introspection
 Copernicus, N., 114, 171, 218, 266
 Cowles, E., 82, 271
 creative education, 164, 165
 Critias, 31
 culture epochs, Hall's theory of,
 112, 271

 Darwin, C., 22, 27, 29, 42, 60, 61,
 110, 114, 207, 218, 229, 266, 269,
 270
 Dearborn, W. F., 172
 debate between Watson and
 McDougall, 17-20
 Democritus, 30
 Descartes, R., 27, 29, 32, 33, 35,
 38, 60, 210
 Dewey, J., 20, 82, 88, 89, 172, 203,
 263
 Dickens, C., 170
 Diderot, D., 30
 Dionysos, 31

 Donders, F. C., 43
 Downey, J. E., 172
 dreams, Freud's interpretations
 of, 116, 128-137; Jung's theory
 of, 151-154, 169
 Dunlap, K., 103, 172, 250
 Duns Scotus, J., 27

 Eddy, M. B., 104
 Edwards, J., 25, 119
 ego, 118, 120, 130, 162, 270
 Eliot, C. W., 23, 75
 Ellis, H. H., 162
 Emerson, R. W., 22, 76
 emotions, Darwin's classification
 of, 60, 61; James-Lange theory
 of, 61, 62, 65, 66, 68; Cannon's
 research in, 63-66; Watson's
 experiments upon, 216-219
 Epicurus, 30
 Erasmus, D., 170
 erogenous zones, 122, 251
 erotism, 80, 116, 121-125, 126,
 139. *See* sex
 extraversion, 139, 150, 151, 156,
 251

 Fechner, G. T., 9, 27, 43, 46, 50,
 51, 54, 55, 266
 Ferenczi, H., 81, 264
 Ferree, C. E., 172
 Fisher, I., 197
 fixation, 128, 251, 255
 Fort, C., 247
 Fosdick, H. E., 196, 271
 Franklin, B., 219
 Freud, S., 8, 39, 44, 56, 81, 96,
 114-123, 124-132, 135-141,
 148-151, 158, 159, 161-164,
 168, 169, 171-174, 176, 177,
 195, 201-203, 216-218, 230, 245,
 249, 251-253, 254, 261, 264, 266,
 268, 270
 functionalism, 89, 90, 104, 245,
 246, 263

 Galen, C., 27-29, 32
 Galton, F., 27, 229, 247

INDEX

- Gates, A. I., 172
 George III, 170
Gestalt Theorie, 234, 237-241, 247, 248, 253
 glands, 29, 64, 214, 215, 268
 Gesell, A., 172
 Gilman, B. I., 82
 Glueck, B., 163, 173, 192, 264
 Glueck, S. S., 194
 Goddard, H. H., 172, 179
 Goethe, J. W. von, 28, 261
 Goldenweiser, A., 163
 Goldsmith, C. E., 164-167
 Goldsmith, O., 170
 Grant, P. McN., 196
 Grant, U. S., 171
 Gregory of Nyssa, 33
 Guthrie, W. W., 271
- habit, 221-223. *See* conditioning
 Hall, G. S., 17, 20, 67, 76-83, 95, 106-112, 118, 138, 158, 170, 172, 203, 215, 249, 261-263, 268, 270, 271
 Hamilton, G. V., 200
 Harding, W. G., 171
 Hartley, D., 39
 Healy, W., 192, 264
 Helmholtz, H. L. F. von, 9, 21, 27, 43, 50, 212, 266, 267, 272
 Heraclitus, 30
 Hering, E., 43, 52, 262
 Hickman, E., 170
 Hinkle, B., 169
 Hippon, 30
 Hobbes, T., 37-39
 Hollingworth, H. L., 172, 173, 198, 249
 Holmes, O. W., Jr., 52
 Holt, E. B., 138
 Holt, H., 49
 Hulbert, H. S., 192
 Hume, D., 27, 39, 42, 238, 262
 Hunter, W. S., 172, 255, 256
 Huxley, T. H., 23, 27, 42, 58, 98, 108, 109, 229, 233, 240, 266-269
 hypnotism, 159, 266
 Hyppocrates, 28
 id, 118, 120, 129, 130, 270
 ideas, 39-41, 68, 87
 industrial psychiatry, 197, 199
 infantile sexuality, 119, 122-125, 164-167
 inferiority complex, 139, 142-148, 151, 255, 270
 inheritance, Watson's denial of mental, 218
 inhibition, 114, 129, 255
 insight, 237, 269
 instincts, 121, 207-209, 219, 229-231, 240, 250
 Intelligence Quotient, 171, 180, 188
 International Congress of Psychoanalysis, 139
 International Congress of Psychology, 256-259
 introspection, 56, 57, 106, 204-207, 237. *See* consciousness, functionalism, structuralism
 introversion, 139, 149-151, 156, 251
- James, H., Jr., 73, 265
 James, H., Sr., 22, 74
 James, J., 171
 James, W., 11, 12, 16, 17, 20-26, 44, 49-63, 65-77, 82, 83, 86, 88, 90, 107, 108, 158, 167, 170, 172, 205, 206, 220-222, 225, 233, 239, 243, 245, 260-265, 268, 271
 Janet, P., 159
 Jastrow, J., 20, 82, 91, 138, 178, 249
 Jefferson, T., 219
 Jelliffe, S. E., 163
 Jones, E., 81
 Judas Iscariot, 170
 Jung, C. G., 10, 81, 139, 148-158, 169, 171, 223, 245, 248, 251, 264, 268, 270
- Kant, I., 27, 45, 47, 170
 Kelley, T. L., 172
 Kenworthy, M., 169
 Kepler, J., 27

INDEX

- Koffka, K., 234, 237, 246, 248, 254, 261, 263, 268, 269
 Köhler, W., 234-243, 246, 248, 254, 261, 263, 268
 Krohn, W. O., 82, 191
 Ladd, G. T., 82, 83, 88
 Lange, O., 62
 Langfelt, H. S., 172
 Lashley, K. S., 173, 214, 215, 217, 221, 222
 Lavoisier, A. L., 205
 legal psychiatry, 191-194
 legal psychology, 190
 Leibnitz, G. W., 29
 Leipzig laboratory, 10, 22, 83, 245, 271
 Leopold-Loeb trial, 190-192
 Leopold, N., Jr., 190-192
 libido, 122, 124, 128, 163, 164
 Lindsey, B., 163, 238
 Listing, J. B., 43
 Locke, J., 27, 40-42, 261, 262
 Loeb, J., 211, 212, 233
 Loeb, R., 171, 190-192
 Longfellow, H. W., 148
 Mach, E., 27, 43, 52, 262, 272
 MacLane, M., 170
 Mantegazza, S., 29
 marriage, 156, 199
 McCormick, H., 93
 McDougall, W., 17-19, 163, 228-234, 238, 245, 250, 263, 268, 270, 271
 mechanism, 232, 234, 246. *See* automaton theory
 Mencken, H. L., 163, 238
 Menninger, C., 169, 170
 mental age, 179, 245
 mental chemistry, 39
 mental faculties, 33-37
 mental hygiene, 176, 177, 190-200
 mental tests, 80, 81, 91, 178-187, 189, 245, 247, 260, 263
 Mesmer, F. A., 266
 Meyer, A., 177
 Miles, W. R., 172
 Mill, J., 27, 39
 Mill, J. S., 27, 39, 57
 mind, definitions of, 10, 34;
 Wundt's conception of, 47;
 McDougall's description of, 232, 233; Watson's denial of, 205;
 in functionalism, 88, 89
 Montaigne, M. E., 27
 More, P. E., 247
 Müller, G. E., 46
 Müller, J., 27, 43, 45, 58, 212
 Münsterberg, H., 51, 69, 83-85, 86-89, 91-94, 112, 145, 172, 190, 197, 263
 Murchison, C., 246
 Myerson, A., 254
 Nafe, J. P., 103
 Napoleon I, 51, 167, 170
 National Committee for Mental Hygiene, 176, 177, 190, 196
 nervous system, 45, 57-60, 72, 74, 168
 Newton, I., 27, 39, 53
 Nichols, H., 82
 Nietzsche, F. W., 148-149
 Noyes, W., 82
 Ogden, R. M., 172, 247
 Otis, A. S., 185
 Patrick, H. T., 191
 Pavlov, I., 214-216, 219, 221, 222, 246, 256, 260, 268
 personalities, double and multiple, 159-161
 perversions, 115, 119, 253
 Peterson, J., 172
 Pintner, R., 172, 189
 "Piper, Mrs.," 69, 70
 Plato, 27, 32-34
 Poffenberger, A. T., 171, 172, 198, 249
 Prince, M., 158-161, 190, 215
 progressive education, 80, 195.
 See creative education
 psychic vapours, 29

INDEX

- psychical research, 69, 70, 269
 psychoanalysis, 81-157, 163, 169-171, 176, 254, 263
 Psychology, definitions of, 9, 10 ;
 early treatment of, 30 ff. ;
 Greek, 30-35 ; patristic, 31, 33-35 ; Cartesian, 32, 33, 35 ;
 faculty, 35-37 ; empirical, 37-44 ; experimental, 44-48 ;
 Wundt's description of, 48 ;
 James' criticism of, 49-51, 260 ;
 Münsterberg's conception of, 84-88 ; Titchener's exposition of, 98-100 ; Hall's conception of, 111
 psycho-physics, 45-47, 54-55
 psycho-technics. *See* applied psychology

 Rank, O., 121, 169, 264
 reaction, 220, 221. *See* response
 reflex, 44, 215, 233, 240, 245, 250-252, 261, 270. *See* reaction and response
 religion, mental hygiene in, 195, 198
 repression, 114, 127, 252
 response, 222, 255. *See* reaction and reflex
 retroflex, 252
 Ripley, R., 169
 Roback, A. A., 163
 Robespierre, M. M. I., 171
 Roosevelt, T., 171
 Rousseau, J. J., 171
 Royce, J., 82, 263
 Russell, B., 163, 233

 Sanford, E. C., 82
 Schiller, J. C. F. von, 170
 Schmalhausen, S. D., 161, 252-254
 Schopenhauer, A., 27
 Scott, W. D., 172
 Scripture, E. W., 82
 Seashore, O. E., 146
 sensation, 41, 43-47, 52-54, 86-88, 205, 239, 272

 sex, 112, 114-117, 119, 122-125, 126, 140, 151, 159, 230, 250, 251.
 See infantile sexuality
 Shaw, G. B., 163
 Simon, T., 178, 179, 184
 Singer, H. D., 191
 Socrates, 27, 81
 soul, 10 ; ancient conceptions of, 29-36, 40 ; James' treatment of, 70-73 ; Hall's belief in, 106, 271
 Southard, E. E., 197
 Spencer, H., 37, 40, 120, 229, 233
 Spinoza, B., 171
 Starch, D., 172
 Strong, E. K., Jr., 172
 structuralism, 89, 90, 103-106, 245, 246, 264
 Stumpf, C., 52, 262
 subconscious, 158-161, 261
 sublimation, 128, 251
 superconscious. *See* unconscious, Jung's view of the super-ego, 118, 120, 162, 270
 suppression, 114
 Swedenborg, E., 23
 symbolism, Freudian, 131-136

 temperaments, early explanation of, 28, 29
 Terman, L. M., 171, 179, 184-186
 Tertullian, 34
 Thorndike, E. L., 210-211, 235, 250, 260
 thought, 67, 68 ; imageless, 209 ; Watson's conception of, 209
 Thurstone, L. L., 172
 Titchener, E. B., 11, 67, 83, 97, 98-105, 197, 203, 205, 209, 240, 263, 267, 268, 271
 Tolman, E. O., 248
 Towne, O. B., 106
 Troland, L. T., 172, 251, 252
 Tyndall, J., 108

 unconscious, the, 10 ; Freud's conception of, 117, 118, 127-129, 140 ; Jung's view of, 151-157 ; 161, 245

INDEX

- Vierordt, K., 50
Volstead, A., 194
Voltaire, 53

Wagner, R., 149, 171
Washburn, M. F., 103
Washington, G., 171
Watson, J. B., 12, 17-19, 44, 57,
172, 201-203, 205-229, 231, 235,
245, 248, 250, 251, 255, 267, 268,
271
Weber, E. H., 9, 43, 45, 50, 51,
54
Weber's law, 45, 46, 54
Wells, H. G., 98
Whistler, J. A. M., 170

White, W. A., 173, 192, 264
will, 59, 71, 72, 232, 271
Williams, T., 18
Wilson, W., 171
Woodworth, R. S., 209, 250
Woodyatt, R. T., 191
Wooley, H. B. T., 172
Wright, O., 162
Wundt, W., 10, 21, 22, 24, 43, 47-
50, 51, 83, 89, 90, 97, 108, 167,
197, 203, 212, 245, 247, 262-266,
271

Yerkes, R. M., 184

Zeno, 34

UNIVERSITY OF CALIFORNIA
LIBRARY
SERIALS
GAR.

